

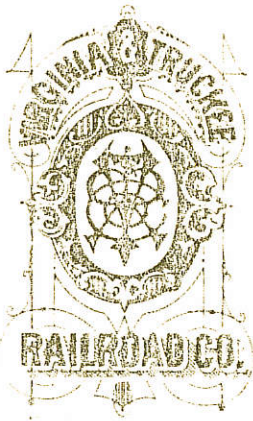
Virginia & Truckee #21

JW BOWKER - STEAM LOCOMOTIVE



Feasibility Report
Historical Overview
Information Sheet





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CALIFORNIA STATE RAILROAD MUSEUM,

Old Sacramento:

EQUIPMENT RESTORATION FEASIBILITY INVESTIGATION

Compiled by

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WILLIAM A. ODEN

For the

STATE OF CALIFORNIA

DEPARTMENT OF PARKS AND RECREATION

1976

Summary
Chronology

- I. Historical Perspective
Specifications
- II. Current Condition Evaluation
Component Analysis
- III. Restoration Recommendations

Virginia & Truckee Railroad Locomotive No. 12 "Genoa"

Virginia & Truckee Railroad Locomotive No. 13 "Empire"

Virginia & Truckee Railroad Locomotive No. 21
"J. W. Bowker"

Northwestern Pacific Railroad Locomotive No. 112

Virginia & Truckee Railroad Combination Car No. 16

Sierra Railway Company of California Passenger Car
No. 3 "Stanislaus"

Central of Georgia Railway Business Car No. 97
"The Gold Coast"

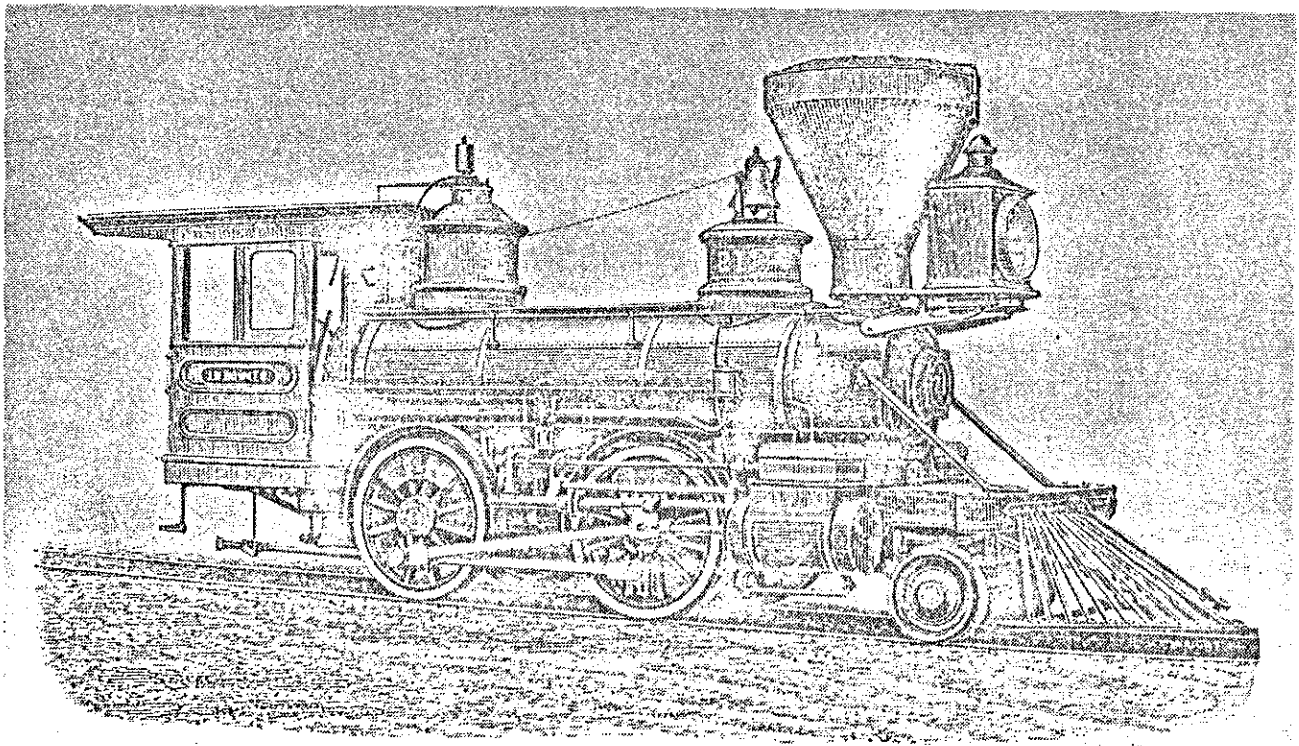
VIRGINIA & TRUCKEE RAILROAD COMPANY

LOCOMOTIVE NO. 21 "J. W. BOWKER"

10/89

- I. Historical Perspective
- II. Current Condition Evaluation
- III. Restoration Recommendations

PRELIMINARY
SUBJECT TO REVISION



Locomotive for Suburban Traffic. (A) By the Baldwin Locomotive Works, Philadelphia.

1889 Engraving

VIRGINIA & TRUCKEE RAILROAD

LOCOMOTIVE NO. 21 "J. W. BOWKER"

Summary

History: Virginia & Truckee Railroad Locomotive No. 21 "J. W. Bowker" was built in 1875 by the Baldwin Locomotive Works of Philadelphia, Pennsylvania, for \$8,185. The locomotive was named after V. & T. Master Mechanic John William Bowker and was primarily used as a yard switching engine at Virginia City. The locomotive was sold in 1896 for \$4,000 to the Sierra Nevada Wood & Lumber Company at Hobart Mills, California. The engine was presented to the Railway & Locomotive Historical Society Pacific Coast Chapter in 1937 and has since been operated, filmed for motion pictures, and displayed on both sides of the United States. It was conditionally presented to the State of California in 1969 and presently is displayed in the reconstructed Central Pacific Railroad Passenger Station at Old Sacramento, California.

Condition : The locomotive has been highly modified and altered since its construction and has been repainted and partially restored on numerous occasions by the Pacific Chapter since 1937. The engine was last operated in San Francisco during 1953 and its present condition, exclusive of paint scheme, most closely approximates its last inservice 1912-1917 mechanical appearance while on the Sierra Nevada Wood & Lumber Company. Major display renovation, a new cab and repainting was last performed in 1969 for \$7,892 at the San Francisco Bethlehem Ship Yards. The engine was the first piece of equipment to be acquired by the Pacific Coast Chapter; it is probably the most famous and one of the rarer engines in the R&LHS Collection.

Restoration: Full non-operative display restoration to its ca. 1875 as-built appearance complete with original unusual fire fighting service equipment is recommended for optimum public display. The engine is a classic example of the custom 1870's state of the art of Baldwin locomotive construction; engines having its unusual 2-4-0 wheel arrangement are practically non-existent in the United States today. The locomotive is a highly significant, unique hundred year old engine which amply merits Smithsonian-quality full 1875 restoration and quality display.

Stephen E. Drew
William A. Oden

July 1976

CHRONOLOGY

- 1875 Built by Burnham, Parry, Williams & Company, Baldwin Locomotive Works, Philadelphia, Pennsylvania, for \$8,185 as Virginia & Truckee Railroad Locomotive No. 21 "J. W. Bowker"
- 1876 Renamed Virginia & Truckee No. 21 "Mexico"
- 1896 Sold to Sierra Nevada Wood & Lumber Company, Hobart Mills, California, for \$4,000, became No. 3
- 1917 Retired, stored Hobart Mills Enginehouse
- 1937 Presented to Railway & Locomotive Historical Society, Inc. Pacific Coast Chapter
Restored to Virginia & Truckee No. 21 "J. W. Bowker"
- 1938 Displayed at San Francisco
Filmed as U. P. "General McPherson" for "Union Pacific"
- 1939 Operated as Sacramento Valley Railroad No. 21 at New York World's Fair
- 1941 Operated for dedication of S. P. Station, Palo Alto, California
- 1949 Operated at Chicago Railroad Fair
Filmed in Oklahoma for "Rock Island Trail"
Used at centennial celebrations, Redding, California
- 1951 Operated on Embarcadero for Aquatic Park Museum, San Francisco
- 1953 Operated on Market Street for Aquatic Park Museum
Stored at Oakland, California
- 1969 Display renovation for \$7,892 at Bethlehem Ship Yard, San Francisco
Displayed for Golden Spike Centennial, Sacramento
Presented conditionally to State of California
Stored Safeway Stores Distribution Warehouse, Sacramento
- 1976 Placed on semi-restored display at Old Sacramento

I. HISTORICAL PERSPECTIVE

1875 - 1937

Virginia & Truckee Railroad Company Locomotive No. 21 was ordered from Burnham, Parry, Williams & Company's Baldwin Locomotive Works of Philadelphia, Pennsylvania, late in December of 1874. The V. & T.'s 1870 2-4-0 Baldwin Locomotive No. 9 "I. E. James" had proved itself an excellent switch and helper engine in the V. & T.'s Carson City Yards: the locomotive was particularly well-g geared and compact for switching loaded and empty cars around the yards and shops. After sparks from the engine set fire to Samuel Longabaugh's Mexican Mill Wood Yard on May 26, 1873, with a resultant court ordered damage award of \$5,281, the "I. E. James" was fitted with a modern boiler-mounted Krombig Steam Fire Fighting Pump ordered on June 21, 1873, from the Central Pacific Railroad. When V. & T. General Superintendent Henry M. Yerington ordered a similar Baldwin switch engine for yard duty at the Company's Comstock headquarters in Virginia City, he requested a fire pump-equipped locomotive after the Chicago & Northwestern specification utilized for the "I. E. James".

Baldwin entered the order for the new 2-4-0 on December 19, 1874, as class 6-22 C 1, boiler No. 3689. The class number designated a six wheel engine with four connected driving wheels, 14 inch diameter cylinders and the first locomotive constructed from Baldwin specifications uniquely conceived to meet the V. & T.'s requirements. The cost of the new engine was calculated at \$8,185.00, f.o.b. Carson City, Nevada, and Baldwin promised completion by March 1, 1875. Once outshopped by the Baldwin Works at Philadelphia, new locomotives usually required three weeks in transit before reaching the rails of the Virginia & Truckee at Reno.

The practice of naming V. & T. engines was begun by William Sharon in 1869--a responsibility inherited by General Superintendent Yerington shortly after his appointment to the senior operating V. & T. post. While still under construction the selected name for a new engine was promptly forwarded to the builder where it was affixed in large, highly polished brass letters on the sides of the locomotive cab. In an 1874 Christmas Day letter to major V. & T. stockholder D. O. Mills, Yerington proposed naming the new 2-4-0 Virginia City switch engine the "J. W. Bowker".

"I named the two first engines ordered from Baldwin Works 'Truckee' and 'Tahoe' and after thinking the matter over would like to name the Va. switch engine 'J. W. Bowker' after our M.M. (Master Mechanic). It would please the old man, more particularly as the Carson switch engine was named after James, our Chief Engineer. The Gold Hill engine I propose to name 'Inyo'. The names are short and the Indian one I think pretty and suggestive and hope they will strike you as being appropriate."¹

John William Bowker was an innovative railroad machinist and the Virginia & Truckee's third Master Mechanic. Prior to moving to Virginia City, Bowker gained valuable experience in the new Sacramento Shops of the Central Pacific Railroad. At the same time he also did research and experimentation on his own initiative which led to several U. S. Patents issued in his name. One such patent filed on October 19, 1869, was a conventionally shaped locomotive wood burning smoke stack which was fitted with an effective cinder recycling spark arrester device--an arrangement which later proved well-suited to Virginia & Truckee locomotives. After the early 1870's departure of predecessor V. & T. Master Mechanic Graves, "Will" Bowker assumed chief responsibility for the road's Virginia City Shops. In his influential position as Master Mechanic, Bowker was responsible to a large degree for maintaining, constructing and shaping the majority of the Virginia & Truckee's early equipment roster. He reviewed numerous specifications for new cars and locomotives and was personally responsible for the arrangement and machine inventory for much of the new Carson City Shops constructed between 1873 and 1877.

One of Bowker's fertile V. & T. inventions was a unique combination flat and ore car. The car had hinged iron sides which formed either a 10 ton capacity ore bin or collapsed inward on top of one another to form a conventional 8 ton capacity flat car for hauling cord wood. Six of these ingenious cars were custom built for the road by the Kimball Manufacturing Company of San Francisco in 1872-1873 and five of the cars lasted on the Nevada short line until their sale on December 19, 1906. Older V. & T. employees recall Bowker's rigid shop rules which were first published on February 2, 1874, and remained posted in the road's shops for decades afterwards. The strict rules called for a 10 hour day with two hours wages deducted if an employee was more than five minutes late to work. No shop conversation was allowed except on subjects relating to company business and an employee's violation of any of the rules was immediate cause for discharge! It was doubtless out of appre-

ciation and respect that Superintendent Yerington had the V. & T.'s new Virginia City switch engine named in honor of the road's revered Master Mechanic Bowker.

The completed "J. W. Bowker" and V. & T. 4-4-0 No. 22 "Inyo" left Philadelphia on March 2, 1875, and the "Bowker's" unusual fire fighting apparatus was already eagerly awaited by a tindery Comstock community.

"NEW LOCOMOTIVES. - The Virginia and Truckee Railroad Company expect two fine new locomotives to arrive here from the manufactory in the East in a few days. One of these, the 'J. W. Bowker', will be used in this city as a yard engine. It is provided with a powerful fire apparatus, and will be capable of doing as good work at a fire as one of our steamers. The locomotive, equipped as it is, will be quite an acquisition to this city. As it will be constantly on duty about the depot ground, it will be like a steam fire-engine prancing about all fired up ready for business. On the engine will be carried \$1,000 worth of carbonized hose, which will always be just where it is wanted and in readiness for instant use. In case of a fire in any of the railroad tunnels or in a building anywhere along the railroad track, this locomotive fire-engine will be of great use. With the 'Bowker' will be brought out the 'Inyo', which will do duty as a yard engine at Gold Hill. This is also a fine locomotive, but it is not provided with a fire-engine. A photograph of the 'J. W. Bowker', exhibited to us yesterday by Mr. Yerington, Superintendent of the Virginia & Truckee Railroad, shows it to be a magnificent locomotive."²

The two new locomotives were received on schedule at Reno on March 22nd and were sent 31 miles south to the Virginia & Truckee's Carson Shops where the "Bowker" was prepared for service. Within a week the engine was test operated in the Carson Yards where it quickly attracted the attention of a Virginia City Territorial Enterprise reporter:

"The 'J. W. Bowker' is designed for a yard-engine. It is a four-wheeler with pony-truck connection. The cylinders are 14 x 20 (sic). The boiler is surmounted with a fire-extinguishing apparatus, which is provided with 500 feet of hose, has four suction, and makes two

deliveries, with a donkey pump, 8 x 10. The locomotive is complete in every respect, and is possessed of a vast amount of energy. Master Mechanic Bowker says that inasmuch as the locomotive, which bears his name is of age (showing '21' on its head-light) he is willing to trust it out of his sight, and accordingly it will be assigned to duty in the Virginia yard."³

The new engine would have reached Virginia City service sooner had it not been for an unfortunate misaligned Carson stub switch which derailed the locomotive and caused minor tank repairs on April 19, 1875. With V. & T. Master of Transportation Captain Harry Hunter and Superintendent Yerington as passengers, the "J. W. Bowker" formally made its maiden trip to Virginia City on April 23rd where it was placed in charge of engineer John Webster. On April 25th, the capabilities of the impressive fire fighting equipment were satisfactorily demonstrated for eager Virginia City residents and journalists:

"The fire engine attached to the 'J. W. Bowker' was tried Sunday afternoon, at the depot, and found to work admirably. The engine has, for the purposes of home protection, a complete fire-extinguishing apparatus, and will doubtless prove very serviceable in case of fire at or around the depot, or on the line of the railroad, if not at a distance of over 500 or 600 feet from the track. At the trial made yesterday, a stream was thrown from the depot completely over Piper's Opera House, flooding the roof from end to end. A stream was also thrown up and across D street, and the sidewalk wet down as far north as the car-shed. One hundred feet of hose was then attached, and a solid stream thrown 200 feet. Through fifty feet of hose a stream, directed against the depot building and accidentally dropped to the covered awning, loosened several shingles and tore one completely off, thus showing the force and body of the stream. The trial was made under the personal supervision of Charley White, yardmaster, and was satisfactory."⁴

The "J. W. Bowker" measured up to V. & T. operating expectations and the brightly painted locomotive quickly became a permanent working Virginia City resident. Only the engine's early rooted affection for misaligned switches caused it occasional embarrassment. When an early morning wrong switch sent the "Bowker" sailing off the end of the track into the

Virginia City turntable pit on June 12, 1875, only \$52.62 and a couple of days repair was required before the switch engine returned to service for further battle.

Virginia & Truckee Locomotive No. 21 was built with a straight 40-1/4 inch diameter boiler which held 122 1-3/4 inch diameter 8 feet 1/4 inch long tubes with copper ringed fire box ends. A split cord wood fire in the steel fire box could provide up to 9,970 lbs. of tractive power with a working boiler pressure of 120 pounds per square inch. Four 48-1/4 inch diameter all flanged drivers had 2-1/2 inch thick steel tires which were tapered 3/16 inches over their 5-1/2 inch face to meet V. & T. curve specifications. The trailing eight wheeled rectangular wood framed tender had a small 1,200 gallon water capacity and held only 2 cords of wood fuel. A massive 23 inch diameter reflector kerosene headlight brightly illuminated the Virginia City Yards while small kerosene lamps lighted cab gauges for late night and early morning operation. The total engine wheel base length was only 13 feet 8-1/2 inches and the fully loaded tender and locomotive together weighed but 65,000 lbs.

Baldwin and D. O. Mills attempted to sell H. M. Yerington on the benefits of applying injectors to the "Bowker" and other V. & T. engines under construction in January 1875, but Yerington was adamant about their furnishing the locomotives only with double brass pumps.

"I note your remarks about 'Injectors' for the new engines and in reply beg to say that our experience proves they are not suitable for us. We have two on our Cooke engines and after giving them a fair trial was obliged to give them up and rely on pumps entirely. On a long road where trains are frequently on side track for a length of time 'Injectors' are first rate for an engine can be 'pumped-up' without the necessity of cutting off from train and running to pump. Here we run our trains so close side tracks are seldom used and as pumps are infinitely more reliable they certainly are preferable for us and I hope Baldwin won't make the change."⁵

The fire fighting equipment was an additional expense billed by Baldwin at \$1,198.37. The boiler-mounted pump was a No. 6 Knowles October 14, 1862 patent, manufactured at Warren, Massachusetts. The double action suction and force single cylinder steam pump was supplied with four sections of suction hose, necessary nozzles and couplers. Water for fire fighting purposes could be delivered from a nearby Virginia City

hydrant, via suction hose from a drainage ditch or reservoir or by direct hookup from the limited tender water supply. In place of the usual rear tender tool box, a large iron reel held 500 feet of heavy 2-1/2 inch diameter carbonized hose. The force of the Hooker-type Knowles water pump was undisputed, according to one record, after a helpful train crew attempted to extinguish a shanty-town fire and ended up smashing the flimsy wooden structures altogether with the tremendous force of the stream-driven pump!

The "J. W. Bowker" was the only V. & T. engine built by Baldwin to merit a completed builder's photograph prior to leaving the company's works; this was no doubt due to the "Bowker's" pioneer nature as the first engine of its exact specifications ever constructed at the Philadelphia plant. Baldwin's obvious pleasure with the finished product was reflected by their inclusion of the engine's picture and specifications in several illustrated Baldwin Locomotive Works catalogues. The V. & T.'s huge inscribed framed copy of the "Bowker" print hung for years in the Carson City Shops. In the 1930's it was presented to V. & T. Vice-President Frank E. Murphy who later presented it to retired V. & T. Master Mechanic Edward C. Peterson. The picture now hangs on the walls of the Nevada State Museum at Carson City.

Regrettable, however, William Bowker's namesake lasted longer with the Virginia & Truckee than did Mr. Bowker. Within four months of the engine's notable arrival, Superintendent Yerington was obliged to dismiss the Master Mechanic for reasons he elicited in a July 15, 1875 letter to Darius Mills:

"I regret to say that I have been obliged to discharge Bowker. During the past year or two I have had any amount of trouble with him on account of his senseless jealousy of nearly every other foreman on the road [and] his foul mouthed abuse of them and out engineers. He has managed to quarrel with nearly every one of them and much of my time and patience has been used up in trying to fix up things till I am tired of it. Yesterday I sent him up to the Vivian Mine, at Silver, to see about some machinery they are putting up. He returned in P.M. full of Whiskey, went over to shops and at once commenced to abuse his foreman (one of the best we ever had on the road) outrageously and without cause. This was done in presence of the other men and it resulted in a tendency to general demoralization of our shops. On learning the facts I at once dismissed him and

put shops (Machine Shop) in charge of the Foreman who has had 17 years of experience and is a capable man, able and willing to handle the shop as it ought to be. We shall thus save \$250 per month--Bowker's salary--and our business well looked after with nothing further to report."⁶

Within months of Bowker's departure, the name of the Virginia City switch engine was changed from "J. W. Bowker" to a nonpersonal "Mexico".

Occasionally utilized in main line and helper service, Locomotive No. 21 was usually retained at Virginia City for yard and light cord wood, ore and merchandise switching duty. The engine received regular maintenance at the Virginia City Shops and was sent down to Carson only for retubing and heavy repairs. The "Mexico" was kept operational during the 1890's Comstock depression until it was sold for \$4,000.00 effective July 1, 1896, to the Sierra Nevada Wood & Lumber Company at Hobart Mills, California. Relettered as S. N. W. & L. Company Locomotive No. 3 on June 25, 1896, the engine began a new life shunting log trains at Hobart Mills, eight miles north of Truckee.

Parts for the locomotive were regularly purchased by the Hobart firm from the V. & T.'s Carson City Supply Department. But when heavy repairs were required in 1900, the S. N. W. & L. Company rented the V. & T.'s 4-4-0 "Genoa" while the ex-"Bowker" was overhauled at Carson City. Between August 4th and September 9, 1900, the ex-V. & T. No. 21 received new driver slide valves, brasses, balance valve discs, a 235 lb. draw head casting, new brake shoes, several tender iron castings, an engine step, side fire box grate bars and new 1-3/4 inch boiler tubes. The locomotive left the V. & T.'s Carson Shops for the last time at 5 o'clock a.m. on September 9th, with an invoice for \$1,308.66.

A dozen V. & T. flat cars were sold to the Sierra Nevada Wood & Lumber Company in 1900-01 and occasional part requisitions for the locomotive were filled by the Carson Shops as late as May 13, 1907. A home-made wood snow plow was fastened to the engine during heavy winter storms but the locomotive was operated for only a decade before it was apparently retired to the Hobart Mills Roundhouse. During a July 1915 visit to the property, David L. Joslyn of the Southern Pacific at Sacramento was surprised to find the engine intact and briefly recounted his discovery in a letter to railroad author and artist A. Sheldon Pennoyer:

"We were literally astounded when we walked into the roundhouse at Hobart Mills and found the old 'J. W. Bowker' sitting there in a dark corner. It was like stepping from the present into the past. I went all over the engine and had a good look at all parts of it, and was deeply interested in all the old earmarks that still remained about the thing.

"Hunted up the Master Mechanic of the Hobart Southern Railroad and asked him when they got the engine, where they had used it and all about it. He could tell me very little as he had been with Hobart's only ten years and she was there when he took the position of M.M. with them. He did know, though, it was used to plow snow from the tracks between Hobart Mills and Truckee and had not been in that service for quite some time."⁷

For the following 20 years the locomotive sat almost undisturbed on the property of the Hobart Estate Company and the Hobart Southern Railroad--successors to the 1896 Sierra Nevada Wood & Lumber Company.

1937 - 1976

With the official organization of the Pacific Coast Chapter of the Railway & Locomotive Historical Society on July 8, 1937, preservation of the former "J. W. Bowker" was assured by the Chapter's first Chairman, Gilbert H. Kneiss:

"Prior to the formation of the Chapter, I, as Pacific Coast Representative, had secured donation of the Virginia & Truckee locomotive 'J. W. Bowker' from the Hobart Estate Company, Truckee, Calif., and the narrow gauge coach 'Silver State' from the Nevada Central railroad in Nevada. The Southern Pacific agreed to furnish free transportation to Oakland for both pieces of equipment.

"I had learned of the 'Bowker's' whereabouts through a railroad history exhibit in the Leamington Hotel early in 1937. The group running the show had asked to borrow the headlight for the occasion and had been

turned down in a letter which was on display. At the time it seemed that asking for the locomotive as a gift might be more successful than trying to borrow the headlight, and sure enough it was!

"The 'J. W. Bowker' arrived in Oakland, California, September 10, 1937, and was unloaded and stored for the Society in the Key System West Yerba Buena yard. Permission was obtained for members of the Chapter to work on the restoration of the engine to its original appearance at every opportunity. When the rainy season started the Key System kindly moved the engine inside the old power house so we could continue the job. By the use of gallons of paint remover the old color scheme and gold leaf filigree came to light. Paint was donated by W. P. Fuller and soon the 'Bowker' looked as good as new."⁸

Since its acquisition by the Pacific Coast Chapter in 1937, the restored Virginia & Truckee locomotive has been frequently operated for pageants, motion pictures and promotional events on both sides of the United States. It has been frequently displayed, variously housed and often repainted and restored so that the details of the famous Virginia & Truckee "J. W. Bowker's" activities over the past 40 years would comprise a multi-volume history. The story of the "J. W. Bowker" is a history of the struggles and successes of an emerging R&LHS Pacific Coast Chapter.

The engine was displayed outside the San Francisco Ferry Building during January and February 1938 and at the Golden Gate International Exposition on Treasure Island. It was filmed under steam lettered as the Union Pacific "General McPherson" for Cecil B. DeMille's 1939 epic "Union Pacific" and later regularly operated as Sacramento Valley Railroad No. 21 for Edward Hungerford's "Railroads On Parade" pageant at the 1939-1940 New York World's Fair. A 16-mile publicity run was made over the New York Central's Putnam Division late in 1939. The engine was operated in connection with the March 1941 dedication of Southern Pacific's new Palo Alto Station and was again required for motion picture service--this time without her fire pump in Oklahoma for Republic Pictures' "Rock Island Trail" released in 1950.

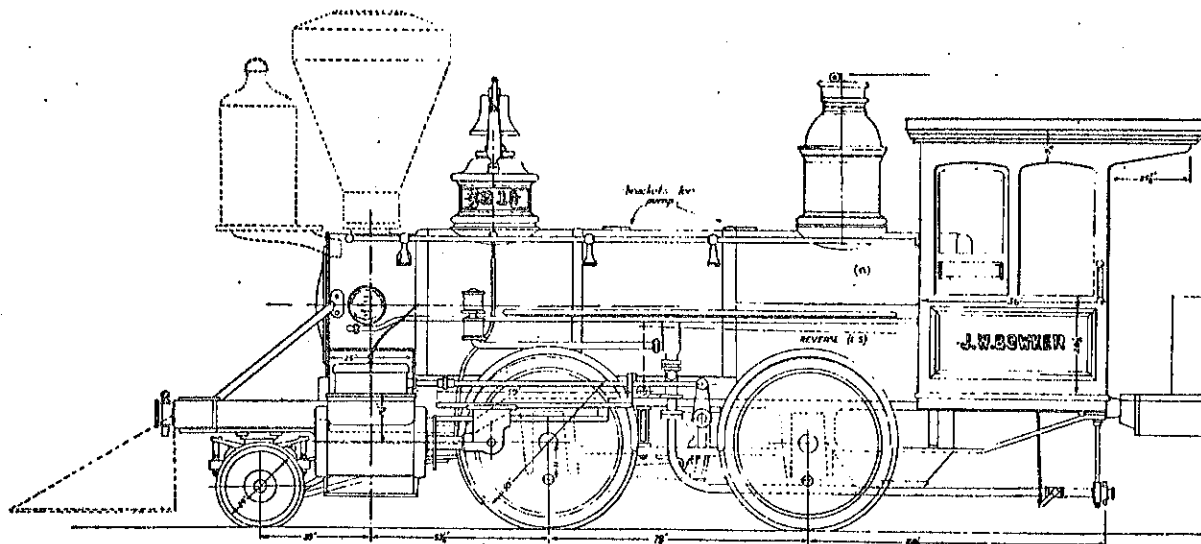
The V. & T. "Bowker" operated at the summer 1949 season of the Chicago Railroad Fair in Illinois and at 1949 centennial celebrations

hosted at Redding, California. Promotional operation for the proposed Aquatic Park Railroad and Maritime Museum occurred on the San Francisco Embarcadero on May 27, 1951, and again on June 23, 1953, when the 2-4-0 was last actively steam operated up San Francisco's Market Street. Static storage followed in the Western Pacific Oakland Roundhouse and beginning August 11, 1964, in a former Oakland Key System Railway Inspection Barn. Major \$7,892.35 cab renewal, display renovation and complete repainting was accomplished at the San Francisco shipbuilding division of Bethlehem Steel Corporation during March, April and early May 1969. The engine attracted considerable public acclaim during its May 8-11, 1969, display at Sacramento in conjunction with national golden spike centennial celebrations; afterwards it was stored without charge in east Sacramento inside a giant food distribution warehouse owned by Safeway Stores, Inc.

Conditionally presented by the Pacific Coast Chapter to the State of California effective August 10, 1969, the locomotive was cleaned and wheeled into the Old Sacramento reconstructed Central Pacific Railroad Passenger Station on June 30, 1976. Long awaited static semi-restored public display as the 1875 Virginia & Truckee Locomotive "J. W. Bowker" began July 3, 1976.

NOTES

1. H. M. Yerington to D. O. Mills, letter, December 25, 1874, Virginia & Truckee Records, Special Collections Library, University of Nevada, Reno.
2. Territorial Enterprise, March 14, 1875.
3. Ibid, March 26, 1875.
4. Ibid, April 27, 1875.
5. H. M. Yerington to D. O. Mills, Letter, January 2, 1875, Virginia & Truckee Records, University of Nevada.
6. H. M. Yerington to D. O. Mills, letter, July 15, 1875, Virginia & Truckee Records.
7. David L. Joslyn to A. Sheldon Pennoyer, letter, Locomotives In Our Lives, Hastings House, New York, New York, 1954, p. 175.
8. 25 Years: A History of the Pacific Coast Chapter, Railway & Locomotive Historical Society, Inc., The Western Railroader, No. 270, June 1962, p. 9-10.



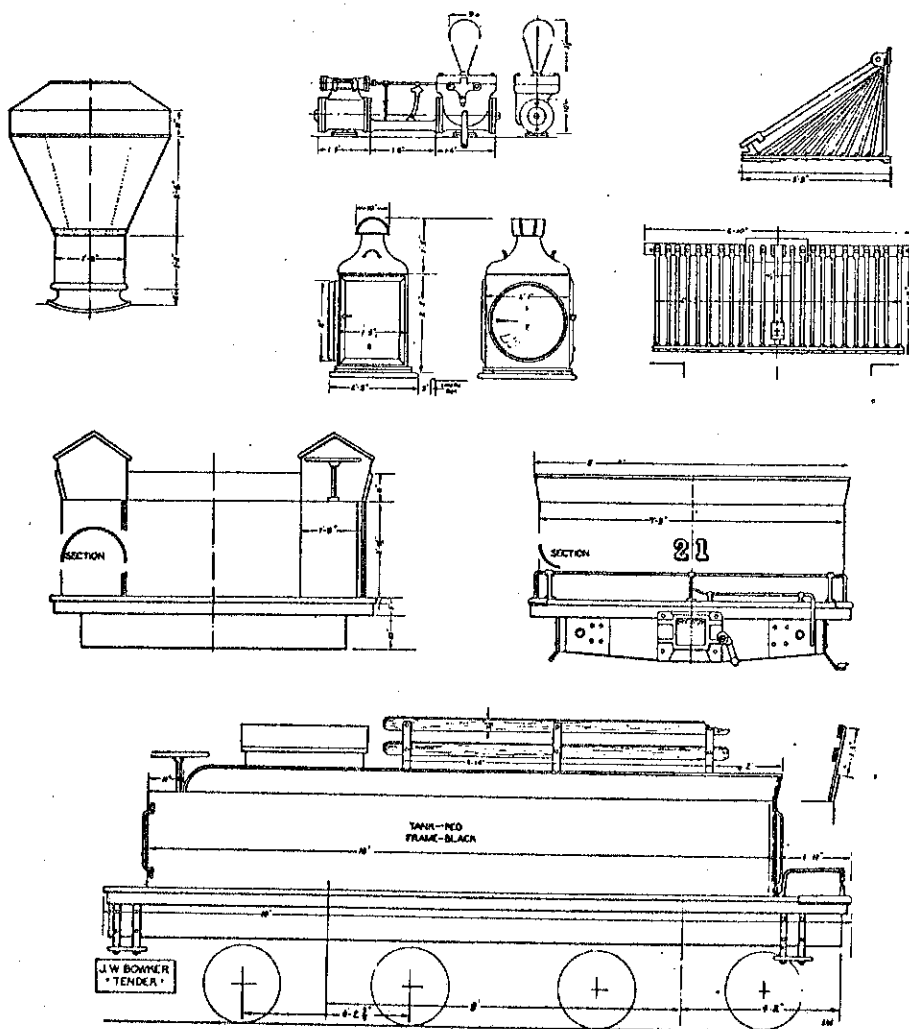
VIRGINIA AND TRUCKEE RAILROAD

Locomotive No. 21-J. W. Bowker

Baldwin Locomotive Works 1875

Cylinders 14" by 23"

Weight 24 tons



AS-BUILT SPECIFICATIONS

Builder: Burnham, Parry, Williams & Company
Baldwin Locomotive Works

Place: Philadelphia, Pennsylvania

Date: February 1875

Gauge: 4 feet 8-1/2 inches, 3/4 inch play

Type: 2-4-0

Class: 6-22 C 1

Builder's Number: 3689

Road: Virginia & Truckee Railroad Company

Number: 21

Name: "J. W. Bowker"

Service: Local Switcher

Fuel: Wood

Cost New: \$8,185.00

Tractive Power: 9,970 lbs.

Boiler Pressure: 120 lbs.

Weight

On Engine Truck: 8,000 lbs.

On Drivers: 40,000 lbs.

Engine Total: 48,000 lbs.

Tender Loaded: 17,000 lbs.

Total: 65,000 lbs.

Wheel Bases

Lead Truck: 7 feet 2-1/2 inches

Wheel Bases (Continued)

Rigid: 6 feet 6 inches

Total: 13 feet 8-1/2 inches

Boiler

Material: Iron, chipped and caulked

Diameter: 40-1/4 inches

Type: Straight, covered with felt
Dome

Diameter: 28 inches

Casing: Brass

Beads: Iron

Jacket

Material: Russian Iron

Bands: Brass

Safety Valves

Number: 2

Type: Baldwin Locomotive Works, 1 with relief lever

Back Gauge Cocks: 3

Glass Gauge: 1

Front Blow Off Cock: 1 Baldwin Locomotive Works

Fire Door: Round for Wood

Corner Cleaning Plugs: Brass

Furnace

Material: Steel

Length: 60 inches

Width: 34-1/2 inches

Depth: 38-1/2 inches

Crown Bars: Regular

Bolts: 7/8 inches, taper head

Fire Brick: None

Tubes/Flues

Material: Iron, copper rings on fire box end

Number: 122

Diameter: 1-3/4 inches

Length: 8 feet 1/4 inches

Dry Pipe: Wrought Iron

Grates: Plain Bars

Ash Pan: Double Damper

Cylinders

Number: 2
Diameter: 14 inches
Stroke: 22 inches
Steam Ports: 1-1/8 x 13 inches
Exhaust Ports: 2-1/2 x 13 inches
Bridge Width: 1 inch

Valves

Type: Stephenson Link
Travel: 5 inches
Lap: 5/8 inch
Lead: 1/10 inch
Eccentric Throw: 4 inches

Exhaust: Double

Oilers: In Cab

Casing: Painted Iron

Covers: Finished Iron

Steam Chests

Casing: Painted Iron

Beads: Iron

Piston Packing: Springs

Guides: Steel, two bars

Crossheads: Cast Iron

Rocker Shafts: Wrought Iron

Drivers

Diameter: 48-1/4 inches

Center Diameter: 43-1/4 inches

Journals

Diameter: 5-1/2 inches

Length: 8 inches

Tires

Type: Steel, all flanged

Size: 5-1/2 x 2-1/2 inches, tapered 3/16 inch

Wrist Pins: Steel

Stub Brasses, Capped

Spring Staples: Cast Iron

Wheel Covers: Brass Pipe

Brakes: None

Throttle

Type: Balance Valve

Position: In Dome

Smoke Stack

Type: Bonnet, netted for wood

Diameter Inside Pipe: 14 inches

Pumps

Number: 2

Type: Brass

Feed Cocks

Number: 2

Pipes: Iron

Check Pipes: Copper

Checks: Brass Casing

Injectors: None

Sand Box

Diameter: 27-1/2 inches

Body, Beads and Pipes: Iron

Cab: Painted Ash

Pilot

Type: Iron, round bars

Bumpers: Wood

Pony Truck

Type: 2 Wheel Swing Bolster

Wheels

Diameter: 24 inches

Type: H. S. Taylor's Plate

Journals

Diameter: 4 inches

Length: 6 inches

Wheel Covers: None

Tender

Type: 8 Wheel Rectangular

Square Frame: Wood

Trucks: Wrought Iron Frame

Tender (Continued)

Wheels

Diameter: 26 inches

Type: H. S. Taylor's Plate

Journals

Diameter: 3-1/2 inches

Length: 6 inches

Brakes: Double, to both trucks

Brake Beams: Wood

Safety Chains: Single

Tool Boxes: 2, Top

Water Capacity: 1,200 gallons

Running Boards

Type: Wood

Nosing: Brass

Steam Gauge and Stand: Brass

Bell Stand: On Sand Box

Flag Fixtures: None

Hand Rails: Brass

Oil Cups: Baldwin Locomotive Works

Number Plate: Brass

Headlight: 23 inch reflector, Crerar, Adams & Co. kerosene burner

Painted Wine Color, General Finish K4, Style No. 1

First class 6 inch Knowles boiler-mounted steam fire pump, 2 sections of 50 foot suction hose, 500 feet of 2-1/2 inch carbonized hose with couplings, nozzles and iron rear tender hose reel.

J. H. Twiss,

Pat. Agent.

No. 55,075

Patented Oct. 10, 1899

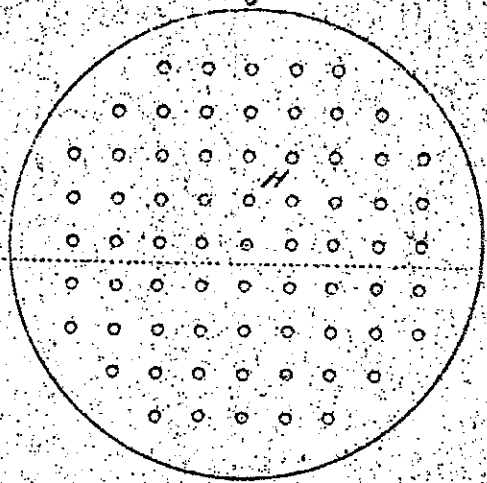


Fig. 2

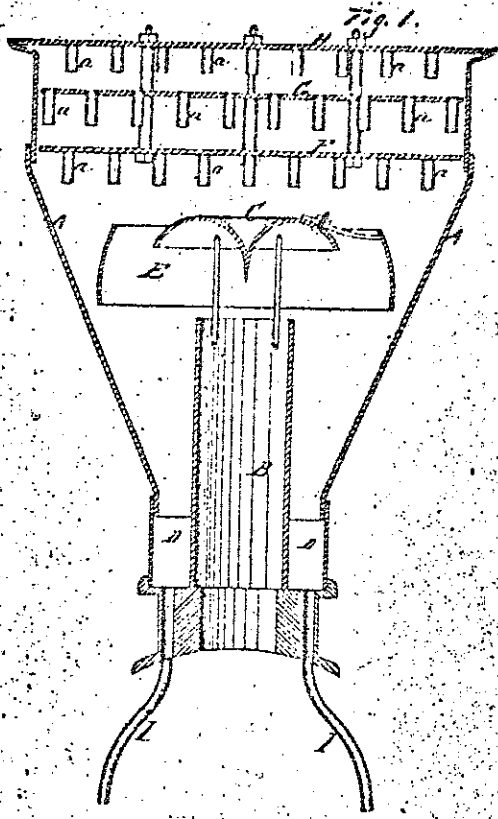


Fig. 1

Witnesses,
Geo. W. Blum
J. W. Brown

Inventor,
J. H. Twiss
By Geo. W. Blum, J. W. Brown

VIRGINIA AND TRUCKEE RAILROAD

SHOP RULES.

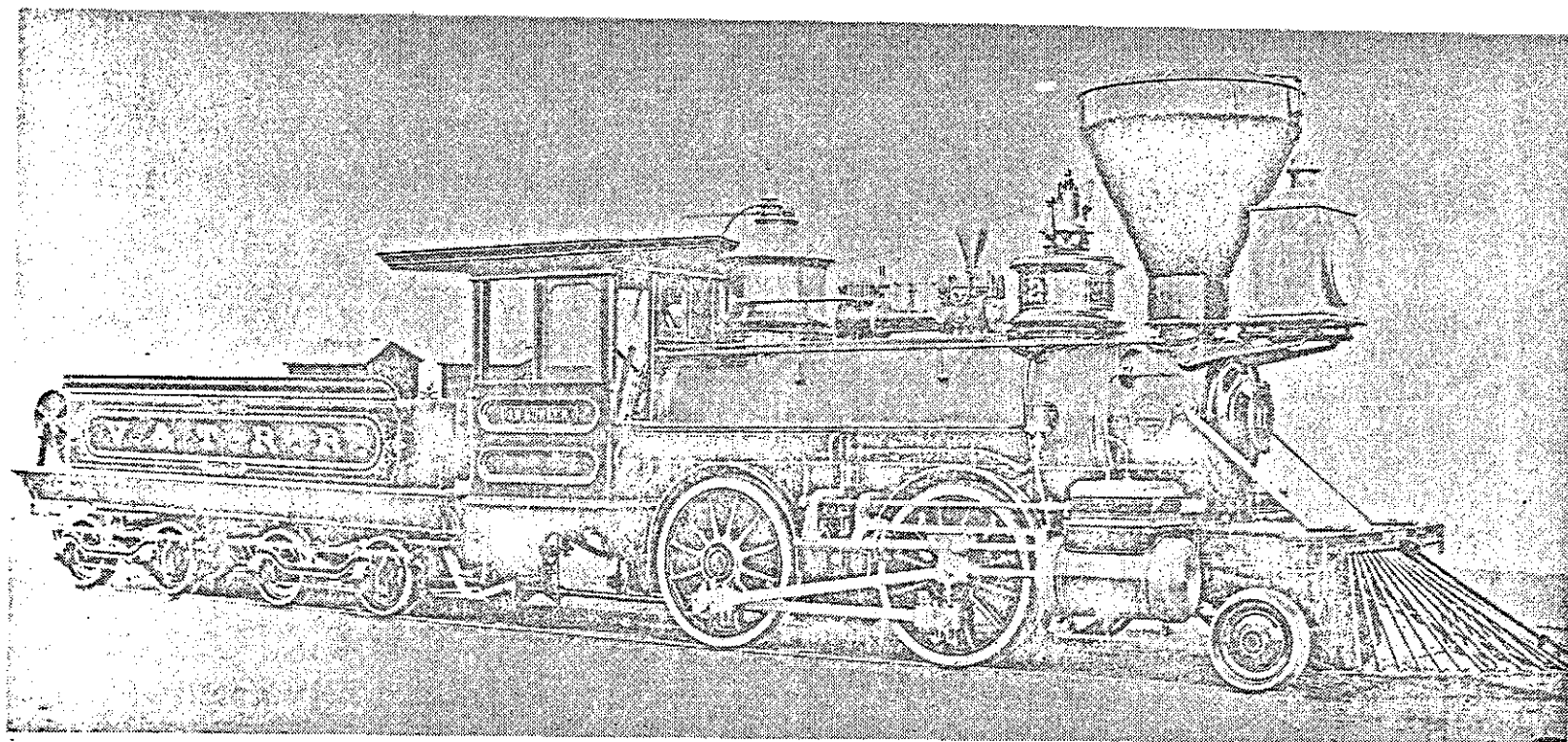
1. No Smoking will be allowed in the Shops or on the premises.
2. Employees must be ready for work at the signal, and if more than five minutes late, two hours will be deducted from their time.
3. Wages will be reckoned by the hour, at ten hours per day.
4. **HOURS OF LABOR.**
JANUARY—From 7 to 12 o'clock M. and from 1 to 5 P.M.
FEBRUARY, MARCH, APRIL, MAY, JUNE, JULY, AUGUST, SEPTEMBER and
OCTOBER—From 7 to 12 M. and from 1 to 6 P.M.
NOVEMBER and DECEMBER—From 7 to 12 M. and from 1 to 5 P.M.
5. One quarter additional will be allowed on time overworked, and one quarter additional to the time lost, will be deducted for quitting work without permission, before the signal.
6. Employees will attend strictly to the work given them to do, and hold no conversation on subjects not relating to their business, during working hours.
7. Employees, when through using Tools, will immediately put them in their proper places, and, if they have been damaged, must report the same to the Foreman.
8. Care must be used with all materials; Nails, Washers, Nuts, Screws, etc., must be picked up and kept in a proper box, or designated place, and in getting Iron, Lumber, or other materials, the pile must be left in proper condition.
9. The Foreman will give orders for all work, and will be responsible for all mistakes made in accordance with his orders.
10. Time must be reported to the Foreman, for entry, every night.
11. Every Employee will hand in his name and particular place of residence, to be registered at the office, and give notice of any change of residence thereafter, without delay.
12. For absence during working hours, permission must be obtained of the Foreman, under penalty of being discharged. In case of sickness, notice must be given as soon as possible.
13. Peddlers, Periodical and Newspaper Agents, are forbidden in the Shops or Yard, during working hours.
14. Foremen will be responsible that materials, etc., about the Shops and Yards are kept in an orderly and tidy condition; will report all violations of the Rules to the Master Mechanic.
15. Visitors are requested not to talk with the Employees, without permission from the Foreman, and then only on business.
16. Employees will not leave their work, to wash up, or make preparations to leave the Shops or Yard, until the whistle is sounded for quitting work.
17. Employees will see that all Tools are picked up and put in their proper places, at night, before quitting work.
18. Employees violating the above Rules will be discharged.
19. Engineers while at work in Shop, will receive the same wages as machinists.

Carson, Nev., February 1st., 1874.

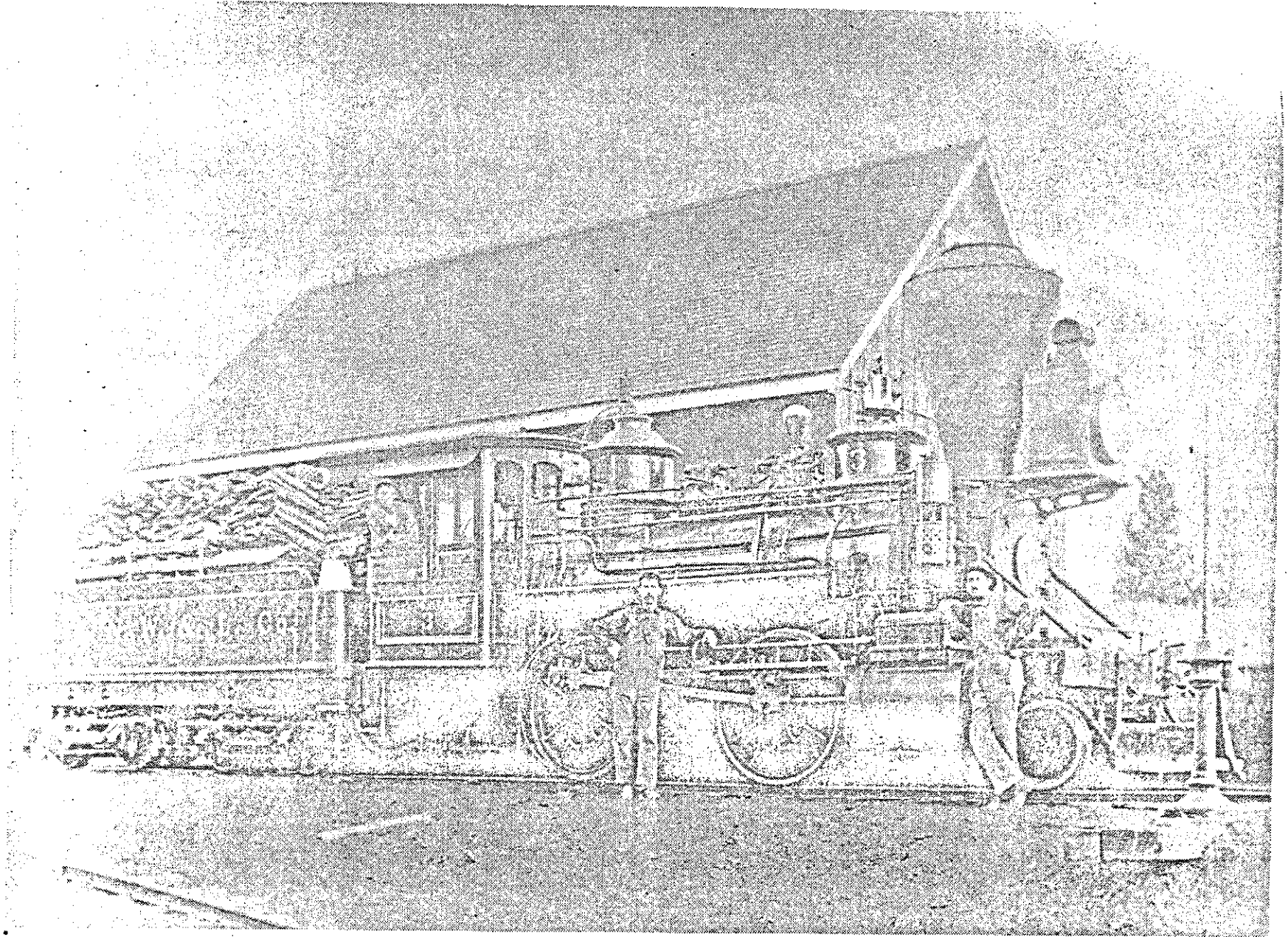
Approved: H. M. YERINGTON, Gen'l Supt.

J. W. BOWKER, M. M.

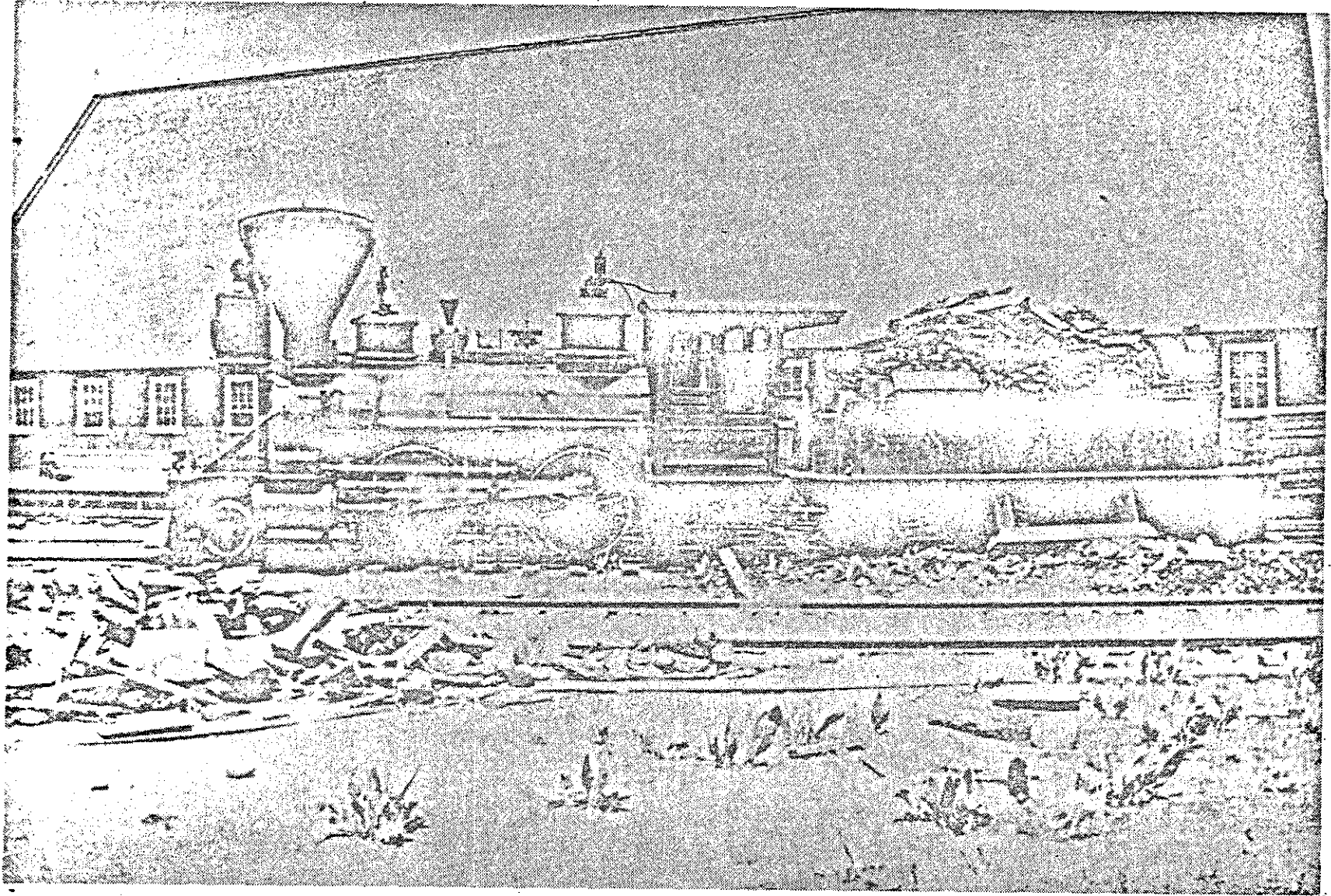
Copyright Stephen E. Drew 1973



Baldwin Locomotive Works, Philadelphia, February 1875



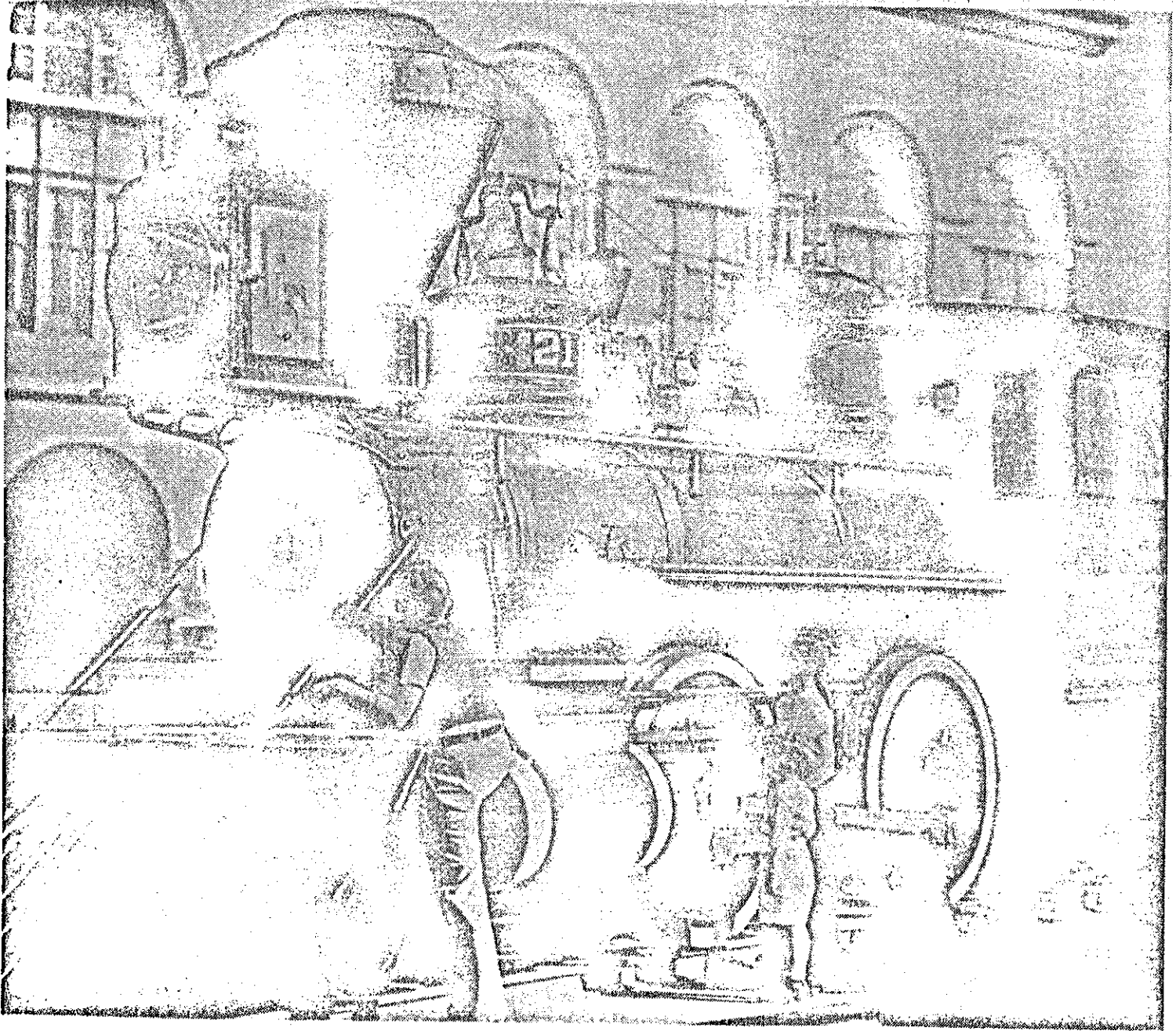
Sierra Nevada Wood & Lumber Company, ca. 1900



Sierra Nevada Wood & Lumber Company, ca. 1905

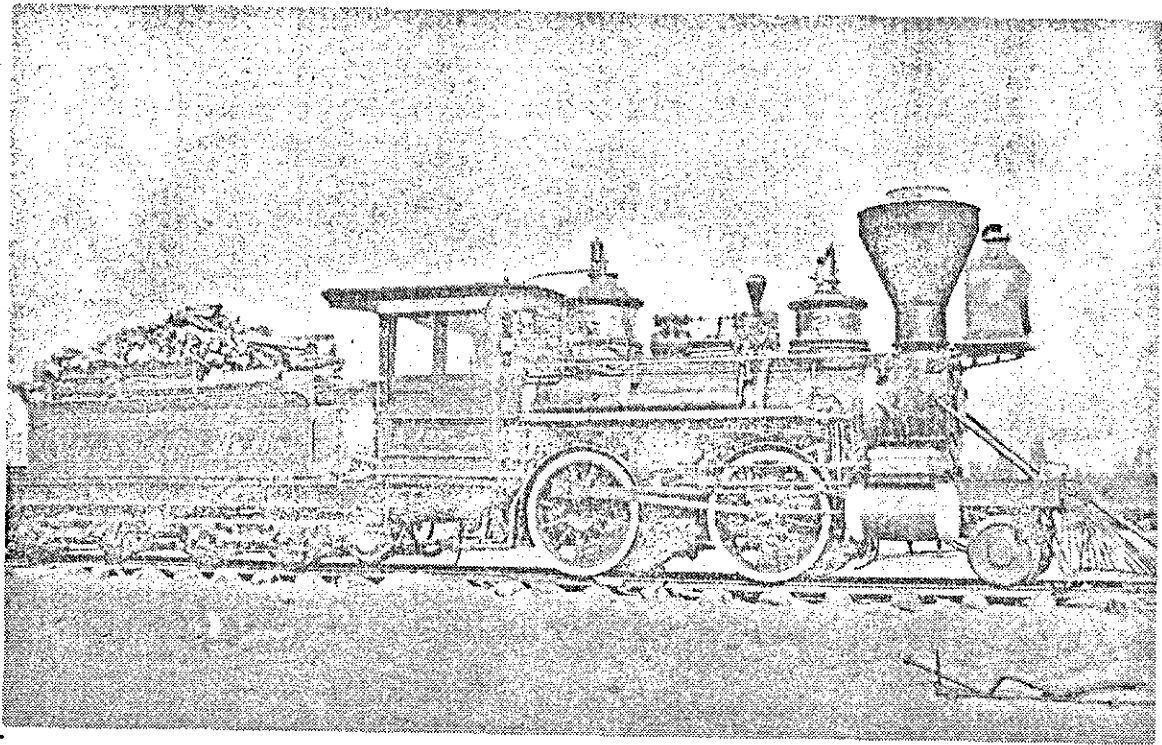
MAY 1938 • • 10 CENTS

Sunset

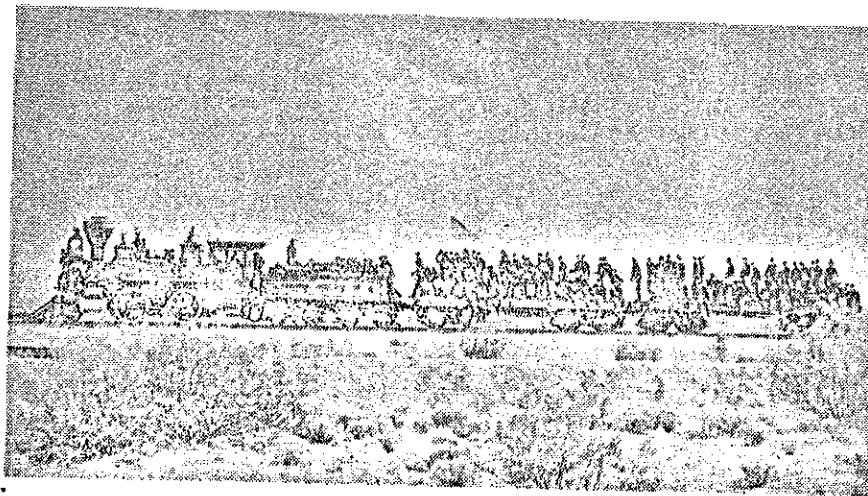


ENGINES LIKE THIS were still in use when the first issue of *Sunset* came out, 40 years ago this month. This one's the "J. W. Bowker," crack locomotive of the Virginia & Truckee Railway during Nevada's bonanza days. For more about it and about *Sunset*, see this issue.

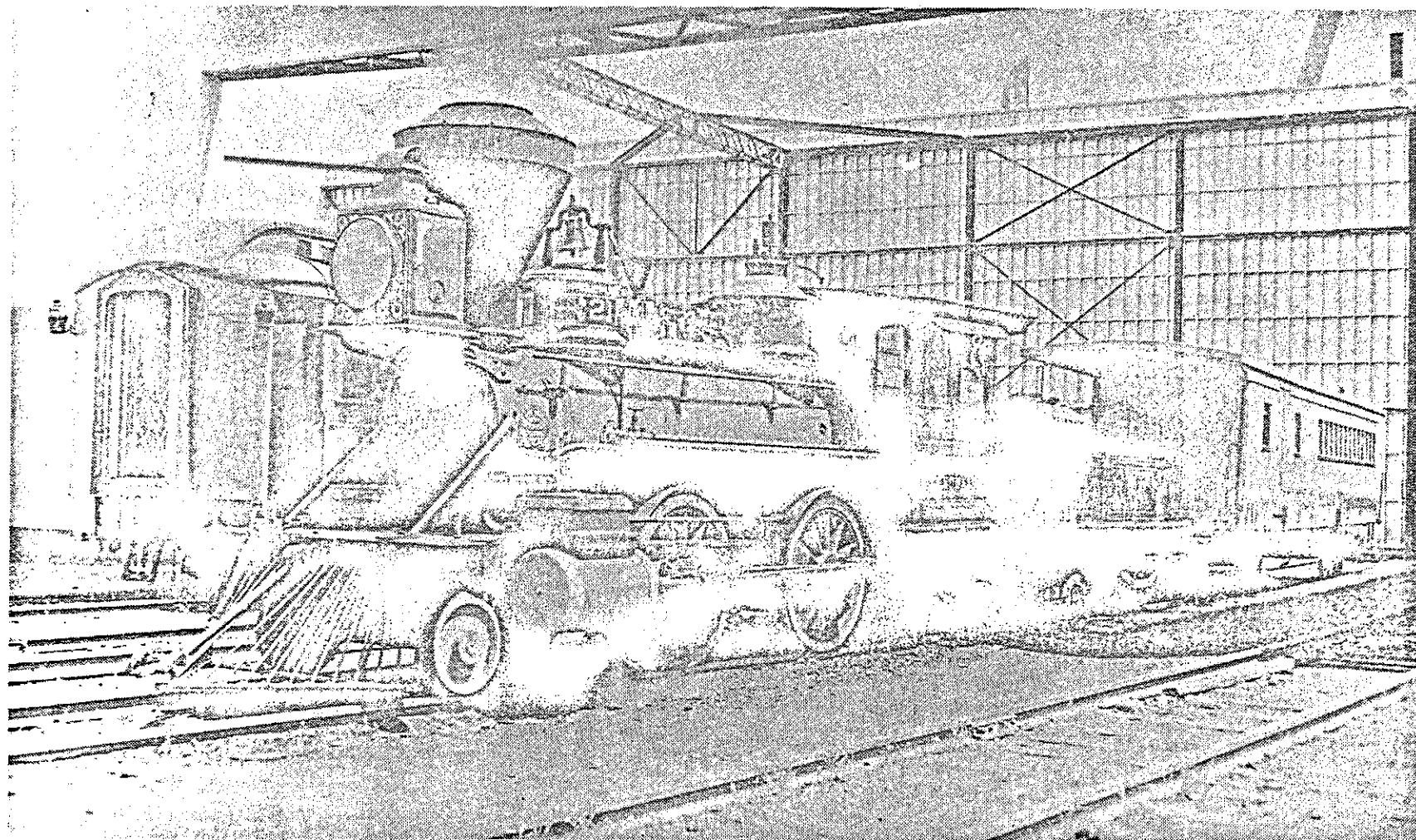
1898 • SUNSET'S 40th ANNIVERSARY • 1938



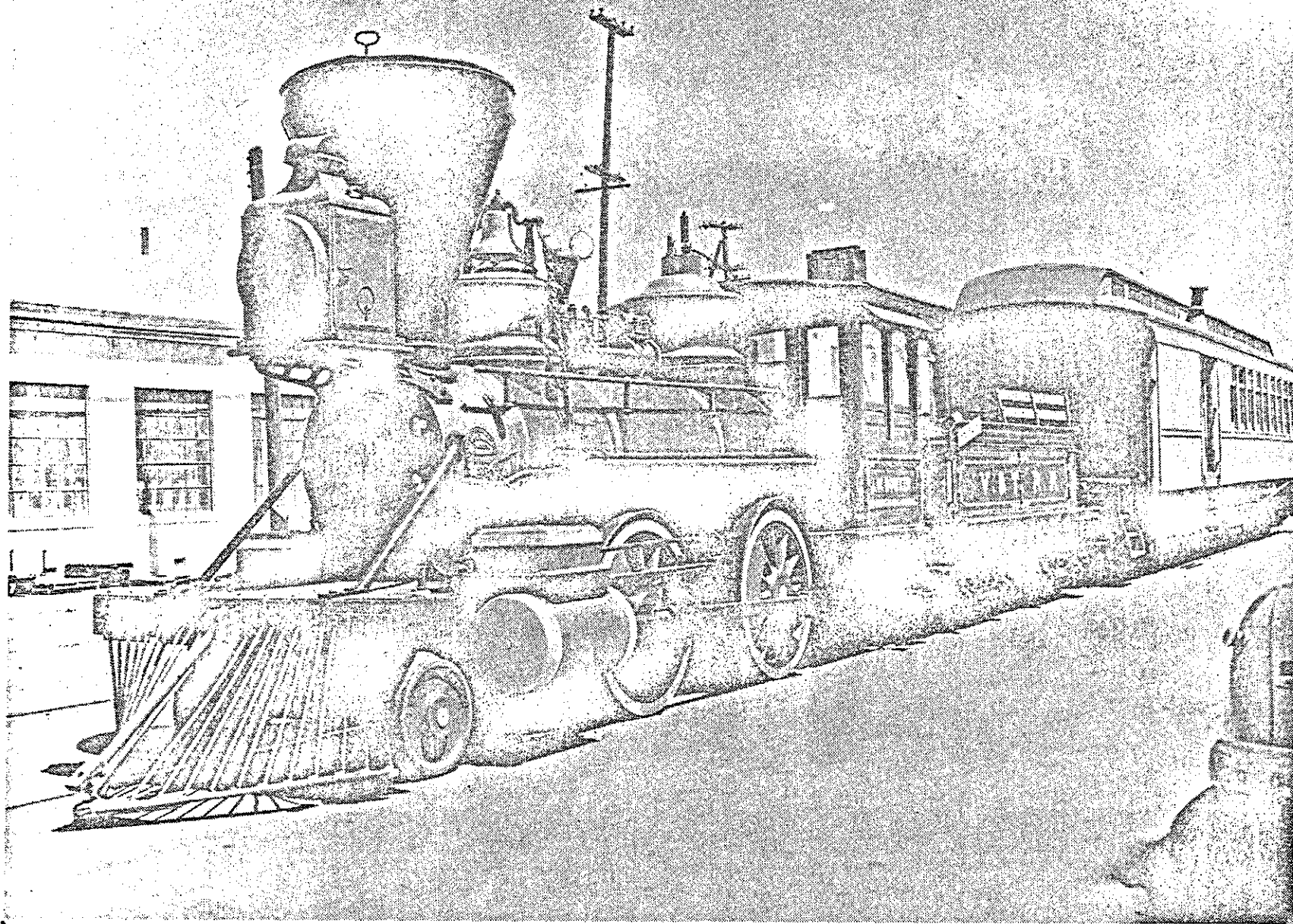
Canoga Park, California, January 1939
(Richard C. Datin, Jr. Collection)



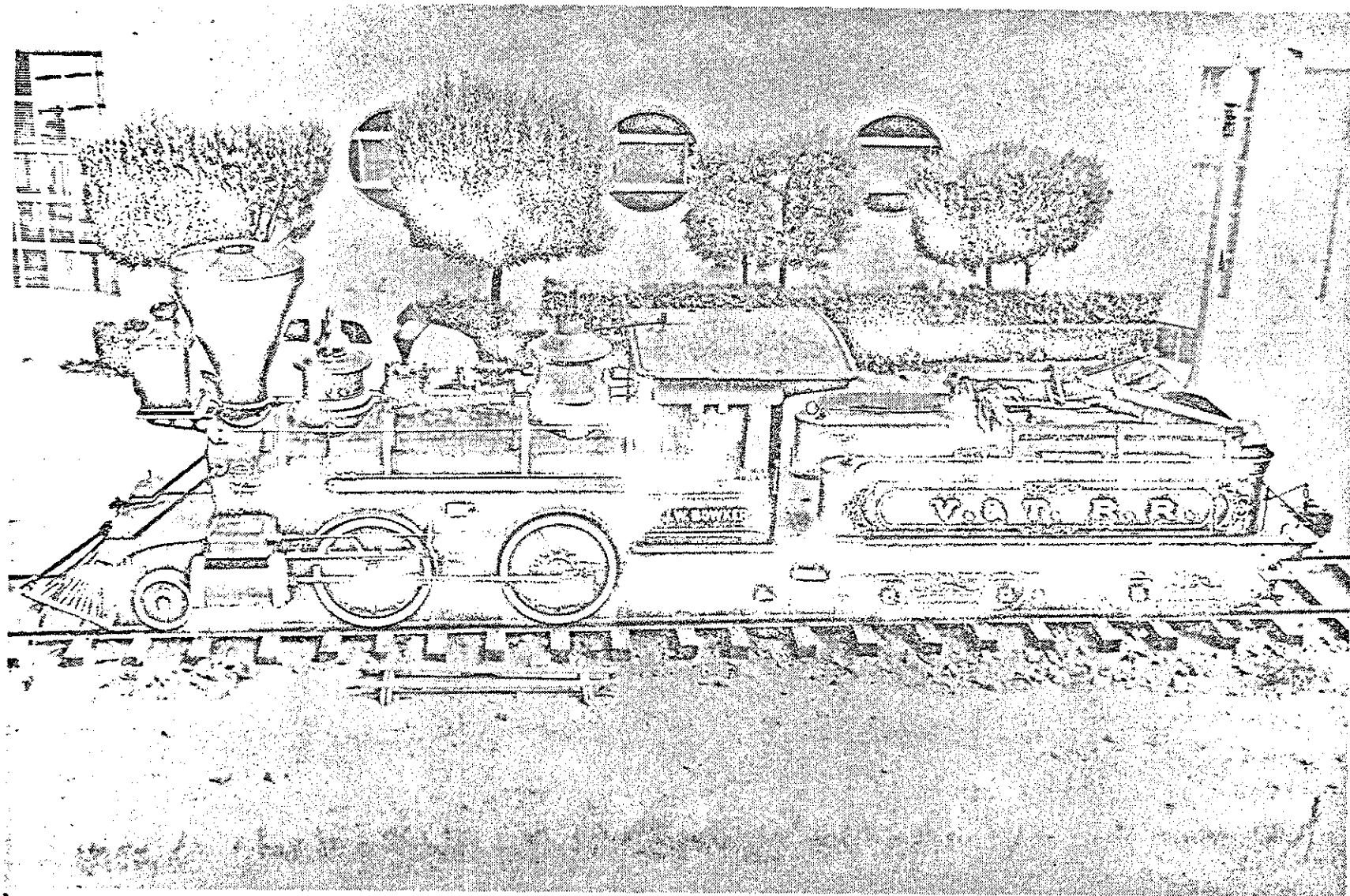
Cecil B. DeMille's "Union Pacific", 1939



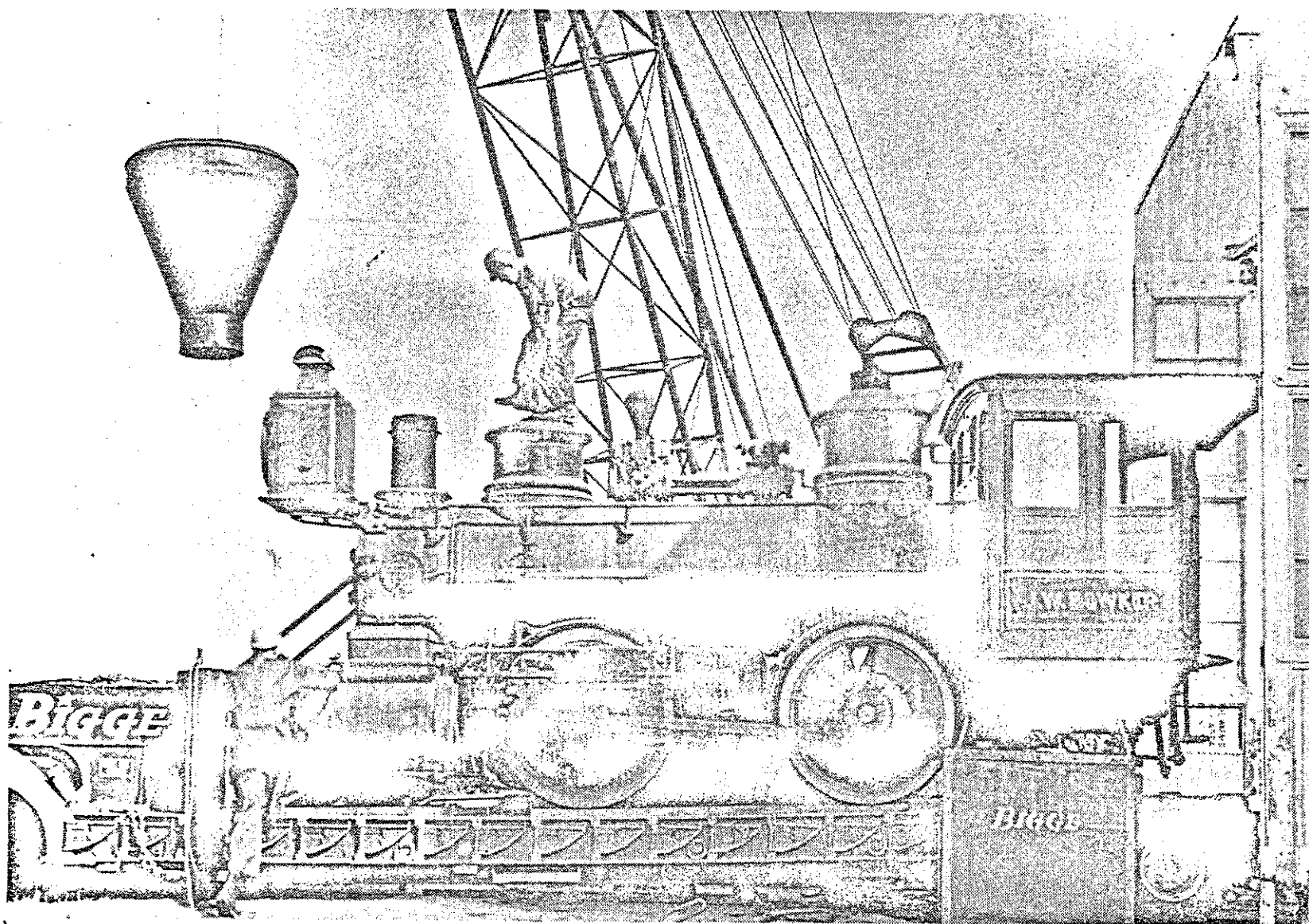
New York World's Fair, 1939-1940



San Francisco, California, May 1951
(Mose Cohen Photo, Oakland Tribune)



Maritime Museum, San Francisco, California, July 1951
(Harold K. Vollrath Collection)



Key System Barn, Oakland, California, March 5, 1969
(Fred A. Stindt Collection)

II. CURRENT CONDITION EVALUATION

The "J. W. Bowker" was inspected inside the Safeway Stores Food Distribution Warehouse in east Sacramento where the engine has been stored since May 12, 1969. While not individually covered, the locomotive has been securely stored inside the warehouse facility and its deterioration has been held to a minimum barring inevitable dust and dirt accumulation. The engine is structurally in very good condition and rests on its own wheels on standard gauge rails; with brakes released, it can be safely moved over short distances.

The locomotive was last operated in May 1953 and improper closing and cleaning of the engine at that time has resulted in some visible interior deterioration. The "Bowker" was last spruced up for static display during March - May 1969 at the San Francisco Bethlehem Ship Yards for \$7,892.35. A new cab was constructed, the pilot was straightened and the engine was completely repainted and lettered; a listing of the work performed follows. The 100 year old engine has been heavily altered, repaired, modified and partially restored since leaving the Virginia & Truckee Railroad in July 1896 and its current mechanical condition is that of its circa 1912-1917 appearance. The locomotive's present fixtures and paint scheme do not accurately represent its appearance at any time on the Virginia & Truckee. The engine contains numerous state and federal safety alterations and appliances required for operable steam engines through 1912 with additional 1930's improvements.

Following is a detailed listing of the locomotive's major components, an evaluation of their appropriateness on the locomotive as originally built and outfitted and their display condition. The terms "excellent", "very good", "good", "fair" and "poor" are used throughout to objectively grade components for their condition and static display impact. The evaluation is based on the assumption of non-operative museum display.

The "J. W. Bowker" was the first piece of equipment acquired by the R&LHS Pacific Coast Chapter and is probably the most famous and well-known piece in the Society's collection. The engine's generally complete condition, its unusual construction, function, age and intact factory-built fire service equipment makes it one of the rarer and more valuable pieces in the State of California's Collection.

COMPONENT ANALYSIS

Boiler: Original 1875 double riveted lap construction Baldwin Locomotive Works straight top boiler; last reflued late 1938 by Southern Pacific Railroad Shops, West Oakland, California. Major left side patch through bottom 3 rows of stay bolts.

Jacket: Fair condition, obvious sheet metal patch work; should be clear lacquered natural blue lustered Russian Iron instead of painted.

Jacket bands: 4, Brass; good condition.

Steam dome: 1, Iron with brass casing last highly polished 1969, very good condition. Whistle is post 1949 replacement; undersized chime to original Baldwin style. Original dome top fluted edge brass collar replaced with sheet metal ring after 1940 New York World's Fair. Pressure relief valves include contemporary safety addition, early Roe Stephens Manufacturing Company, Detroit, addition, and original style adjustable spring pop regulator with connecting cab valve lever missing.

Generator: None; never applied. Locomotive has always had kerosene-oil burning lights 1875-1976.

Sand dome: 1, Iron, decoratively numbered "21" in 1969; good condition. Single gravity feed lines intact to front of lead drivers; reconnected 1938.

Bell: Posts, yoke and bell intact on sand dome; likely original equipment or quality replacements. Original yoke may have been slightly taller; bell cord ringer arm is replacement for original style and position of arm.

Smoke stack: Old style wood burning stack installed 1940 after New York World's Fair; similar style though not identical to original netted Baldwin Bonnet stack. Stack cleaned and re-mounted 1969. Appropriate cinder screen catch and handle missing.

Headlight: Old style box oil burning headlamp acquired 1937 with engine by Pacific Coast Chapter; glass frequently broken and replaced. Lamp is ca. 1890 vintage with remnants of contemporary electrification efforts; major required oil burning apparatus intact inside light. 2 headlight mounts are ca. 1890 replacements different than original Baldwin style. Brass nosed wooden lamp mounting board intact.

Running boards: 2, Wood with brass nosing, good condition.

Builder's plates: 2, Replacement cast iron, removed and repainted 1969. Plates read "Baldwin Locomotive Works."

Boiler (Continued)

Philadelphia. Burnham, Parry, Williams & Co No 3689. 1875." Original plates were brass castings, painted and highly polished.

Number plate: 1, Brass 17 inch diameter; removed, repainted and polished 1969. Plate reads "Baldwin Locomotive Works Philadelphia 21". Present 6 inch high "21" numbers first applied 1937 with drive rivets; originally applied with 1/4 inch brass rivets.

Smoke box: Good condition; door is 1890's sheet replacement unlike original. Two door dogs are poor quality handmade strap iron replacements fashioned 1937; should be castings.

Boiler stay bolts are drilled; likely done ca. 1938 to satisfy contemporary safety requirements.

Boiler checks: 2, Altered 1890's on SNW&L and repiped 1938 with functional faucet valves and handles. New piping, brass castings and acorn tops required for 1875 appearance.

Pilot boiler braces: 2, Iron original; very good condition.

Flag holders: 2, Added late 1938 for "Union Pacific": no flag fixtures furnished on engine by builder.

Fire Box: Repairs evident; tubes still in boiler. Bottom 5 rows of tubes are corroded from boards, nails, debris and ashes improperly left in box, presumably after last 1953 operation; fire box should be thoroughly cleaned and properly vented to stop further decay. Boiler hand hole plug has been opened. Front plugs are in place; should be opened so boiler can breathe. Side cable dents from improper 1969 crane handling.

Running Gear

Pony truck: 2, 24 inch diameter wheels; good condition, wear evident.

Cylinder covers and casings: Painted iron, good condition; further straightening and undenting required.

Valves: Stephenson link valve motion type; good condition, some part replacements evident. Should be burnished and lightly oiled.

Drivers: 4, Cast iron, Midvale steel replacement tires, all flanged, applied by V&T Shops. Tires originally tapered or coned 3/16 inch. 4 brass rimmed wheel guards intact, good condition, straightening needed; 8 brass acorn turnings missing, required at ends of guards.

Running Gear (Continued)

Suspension system: Stable, intact; very good condition.

Pilot apron: Straightened 1969; added hand rail removed late 1938.

Pilot beam: Wood, fair condition; new beam and skirting required.

Original round cornered beam has been modified to accept cast iron poling pockets; pockets missing.

Pilot: Iron rod pilot reproduction assembled 1937; frequently straightened. Original pilot was all bolted construction with center brace; some present staves are forged while others are riveted or spot welded. Center brace missing. Pilot reinstalled 1969 by Bethlehem, straightened 1969 by SP Sacramento Shops. Original pilot removed 1870's by V&T and replaced by wooden boards for switching service.

Pilot coupler pocket: None, last remnants of casting and added uncoupling lever removed 1937. Present rooster supplied 1937, installed backwards 1969. Added contemporary welded brace.

Cab: Wood, rebuilt 1969 by Bethlehem using replaced V. & T.-built cab as pattern; rounded moldings cleaned and reused where practical. 1937 name panel "J. W. Bowker" retained by Fred Stindt. Imitated replacement cab differs substantially to original Baldwin ash wood cab: BLW cab had peaked instead of arched roof, square instead of arched door openings, rounded instead of rectangular side cab name panels, square cab corners instead of rounded, and no cab window sun visors until after 1900. Present 1969-built cab closely resembles ca. 1905 cab appearance except for replacement cab front window hardware and front cab windows which were sliding instead of fixed. Original cab panels bore "J. W. Bowker." brass plates; 1880's replacement cab carried the name "Mexico"; present cab has "J. W. Bowker" painted in name panels. Ornate rear cab cast braces intact, excellent condition.

Windows: 8, Glasses intact.

Hand rails: 2, Original style polished brass grabs, excellent condition.

Floor boards: Wood, fair condition; some renewed 1969.

Seats: 2, Wood with cushion, replacements. Wholly unlike originals.

Lubricator: Good condition, generally appropriate; 1894 Powell replacement.

Steam gauge: Undersized 1969 replacement for original size gauge stolen between 1949-1961.

Injectors: 2, Pennberethy's industrial type, added after leaving V&T; no injectors furnished with locomotive when built. Fire wall

Cab (Continued)

has been modified for cab injectors; obviously patched when removed.

Backhead fittings and plumbing: Most valve handles are lightweight post 1949 replacements; 1949-1964 replacements have been painted red: not prototype to V&T or to engine. Many handles and fittings stolen off engine 1949-1964 while in storage. Appropriate crosshead pump required. Broken oil can tray casting replaced with lightweight sheet metal tray by 1949. Cab kerosene lamps and safety valve rod missing.

Tender

Underframe: Wood, very good condition.

Water tank: Iron, "U" shape tank; inside scaled 1969 but still very rusty. Tank will not hold water.

Tool boxes: None; 2 wooden tanks required on both sides of tender
Rear tender tool box added ca. 1900; removed 1937.

Foot boards: Rear tender boards added 1890's; removed 1937.

Safety chains: 4, Single type, intact.

Hooks: Remnants of added towing wire and hose hooks remain on tender side after body of hook was torched off by 1900; complete removal required for 1875 as-built appearance.

Foot plates: 4 Strap iron and wood plates intact: rear plates are V&T additions, front plates are remounted replacements. Original front plates were mounted up behind tender side frame.

Hand rails: 2, Intact, good condition on tank front corners; rear railing is safety addition: removal required for pre-1897 appearance. Rear corner grabs are 1890's addition.

Rear coupler pocket: Oversized replacement to original link and pin pocket. Removal of ca. 1900 uncoupling lever remnant required for authentic pre-1900 appearance. Pocket holds modern Gould coupler for contemporary engine switching.

Trucks: 2, Four wheel wood frame, good condition. Wheels are very rare 1872-marked cast iron wheels with paper centers. Several wood brake beams are inferior quality contemporary replacements, rough crudely sawed in comparison to earlier style fine sanded and rounded corner beams; quality standardization required.

Sides lettered "V. & T. R. R." in arbitrary style selected 1969, and numbered "21" on rear. Side wood racks are SNW&L Company addition.

Air Brake Equipment: Westinghouse and American Air Brake Company, St. Louis, Missouri, engine and tender system No. 17484 applied ca. 1899. Air pump originally mounted on right side smoke box, relocated ca. 1905 in unconventional mounting under fireman's cab seat. Cab air gauges are post 1949 replacements undersize to 1900 application. Removal of brake hangers, badly worn driver shoes, lines, cylinder, cab brake stand, equalizer and main tanks required for accurate pre-1896 appearance. As built engine had only mechanical tender brakes.

Fire Equipment: Antique steam water pump intact atop boiler as furnished 1875 by builder; Knowles pump, Warren, Massachusetts, patent October 14, 1862. Direct tender water supply hose intact. Rear tender iron reel, suction hoses, carbonized delivery hose and nozzles missing. Rear tender reel removed by 1900 and replaced with tool box; reel replacement required for accurate 1875 restoration. Additional SNW&L Company piping removed 1937.

Color Scheme: Non-V&T style paint scheme applied 1969 at Bethlehem Ship Yards, San Francisco, for imminent attractive public display.

Itemized list of repair performed March-May 1969 by Bethlehem Steel Corporation, Shipbuilding Division, San Francisco, California, on Virginia & Truckee Railroad Locomotive No. 21 "J. W. Bowker" :

Furnished necessary labor, material and services to make the following repairs to Locomotive "J. W. Bowker" and Tender:

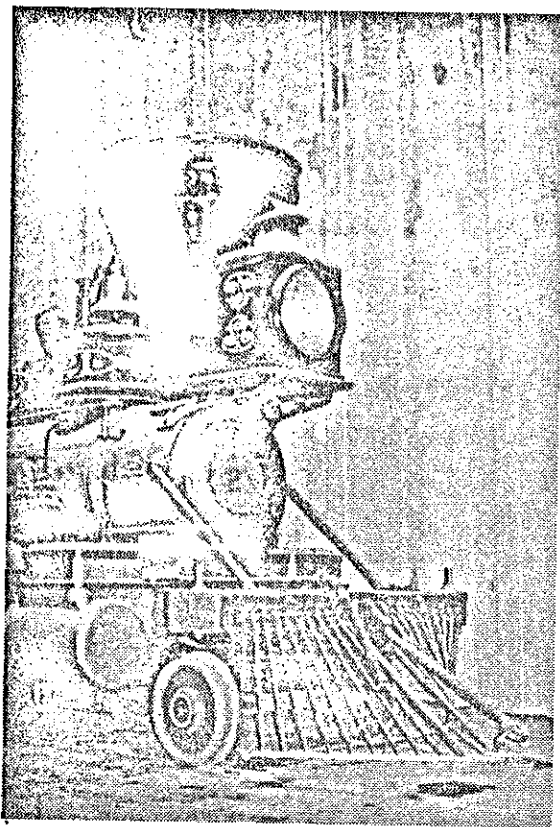
Supplied labor, equipment and material to clear area for storage of locomotive and tender. Moved locomotive and tender as directed. Upon completion of jobs loaded locomotive and tender as directed by owner's representative.

Repaired wooden cab of engine as necessary to restore as original in good condition.

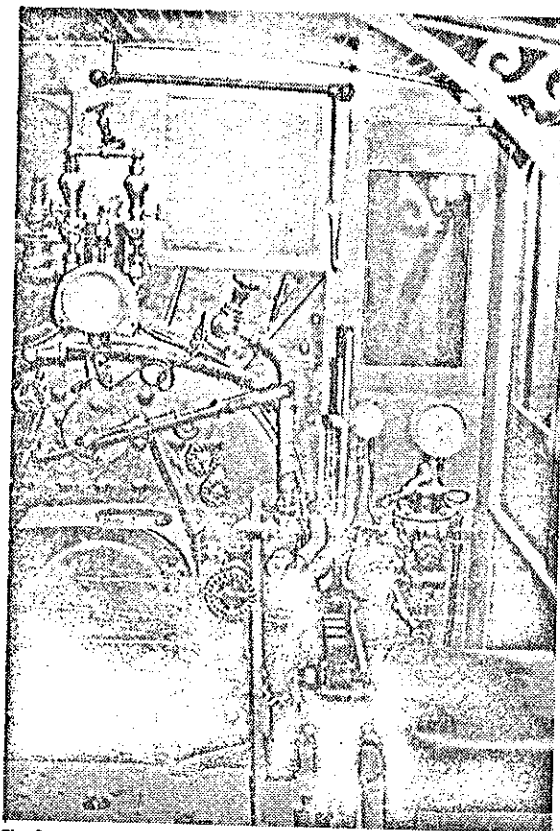
Checked all timber and wood work on balance of locomotive and tender and repaired as necessary.

Scaled both locomotive and tender in way of rusted areas. Primed and repainted both locomotive and tender in original colors. All scroll work and re-lettering was done as directed and made same as original.

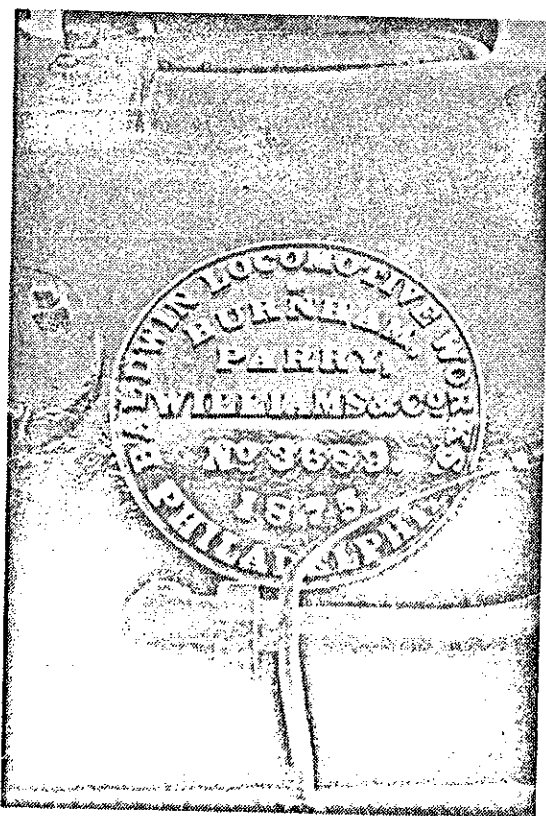
Supplied labor and material to do minor items on both pieces of equipment as directed by owner's representative.



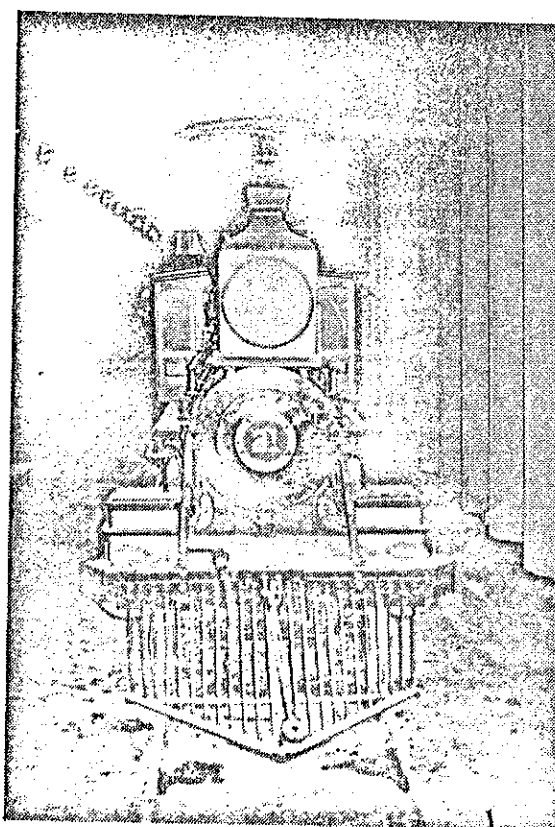
Sacramento, May 5, 1976



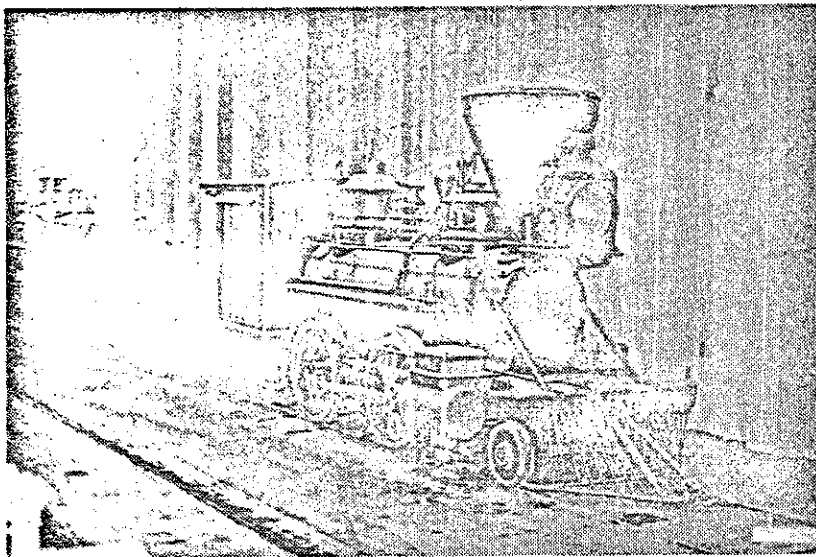
Cab, engineer's side



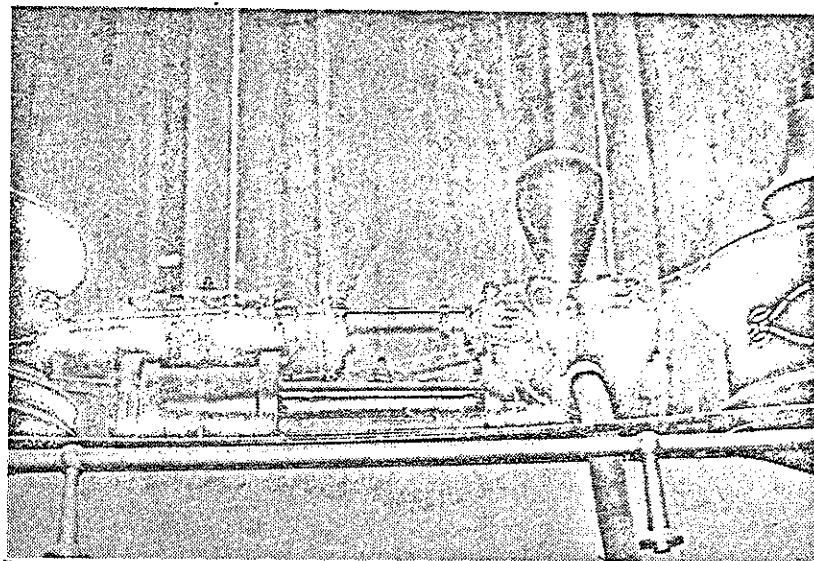
Builder's plate



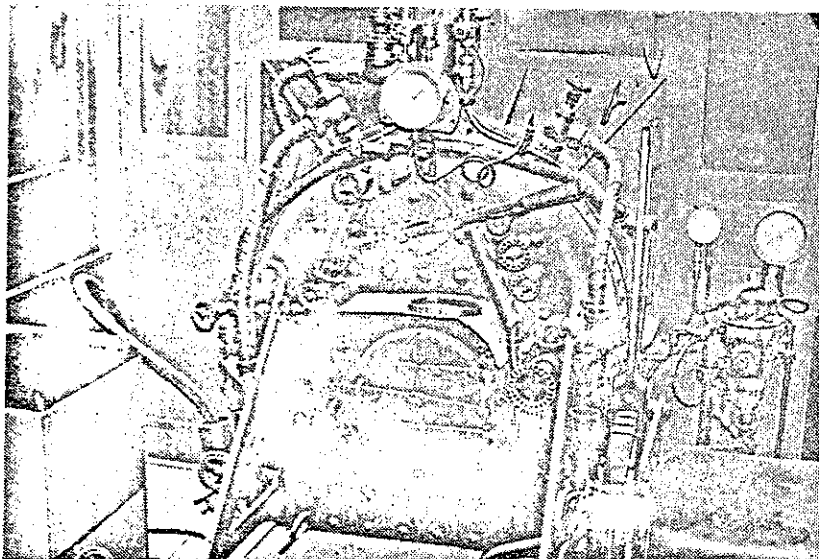
Front



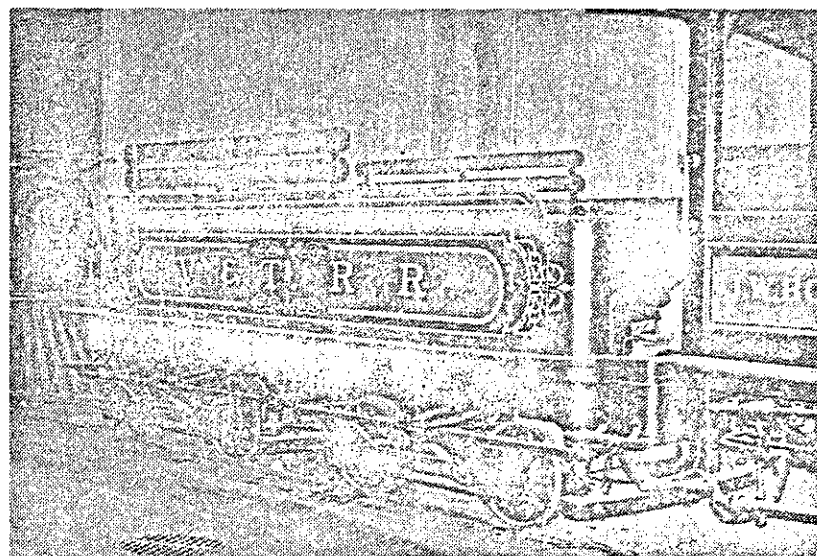
Sacramento Safeway storage



Knowles steam fire pump



Back head fittings



Paper-wheeled tender

III. RESTORATION RECOMMENDATIONS

The Virginia & Truckee Locomotive No. 21 "J. W. Bowker", like the V. & T. Engines No. 12 "Genoa" and No. 13 "Empire", is a rare example of 1870's locomotive engineering. In comparison to other steam locomotives remaining in the United States today, the "J. W. Bowker" is probably the rarest of the nine existing ex-Virginia & Truckee locomotives: 2-4-0 wheel arrangements are practically non-existent in the U. S. Furthermore, No. 21's special factory installed fire fighting service equipment qualifies it as a unique, one-of-a-kind steam locomotive.

The engine has undergone several restoration attempts in the past 40 years, most of which were directed towards making the engine operable or colorfully attractive for immediate public display. Such interim restoration attempts have insured the locomotive's continued existence while at the same time making it readily available for public display and the promotion of a permanent California railroad museum and library research archive. For the most part the restoration attempts do not appear to have been directed towards a well-researched and historically accurate recreation of the engine's original 1875 condition as manufactured; as a result, the locomotive's present condition, exclusive of paint scheme, most nearly resembles its appearance during its last years of regular operation between 1912-1917. Unfortunately this type of appearance, if accurately retained for restoration, would require the repainting of the engine to complete black with simple white lettering and numbering--a terrible museum fate for an otherwise classic and rare 1870's era locomotive.

To accurately restore the engine's beautiful multi-color scheme with polished brass and ornate striping, its physical condition must be restored to its 1874 appearance as custom built by the Baldwin Locomotive Works. Historically the V. & T. locomotive formally carried the name "J. W. Bowker" only during 1875-1876; a restoration of the engine to other than its 1875 nearly new appearance would mandate its less desirable lettering as either the "Mexico" or S. N. W. & L. Company No. 3.

The major work to be performed for full 1875-1876 restoration of the locomotive for accurate non-operational display includes:

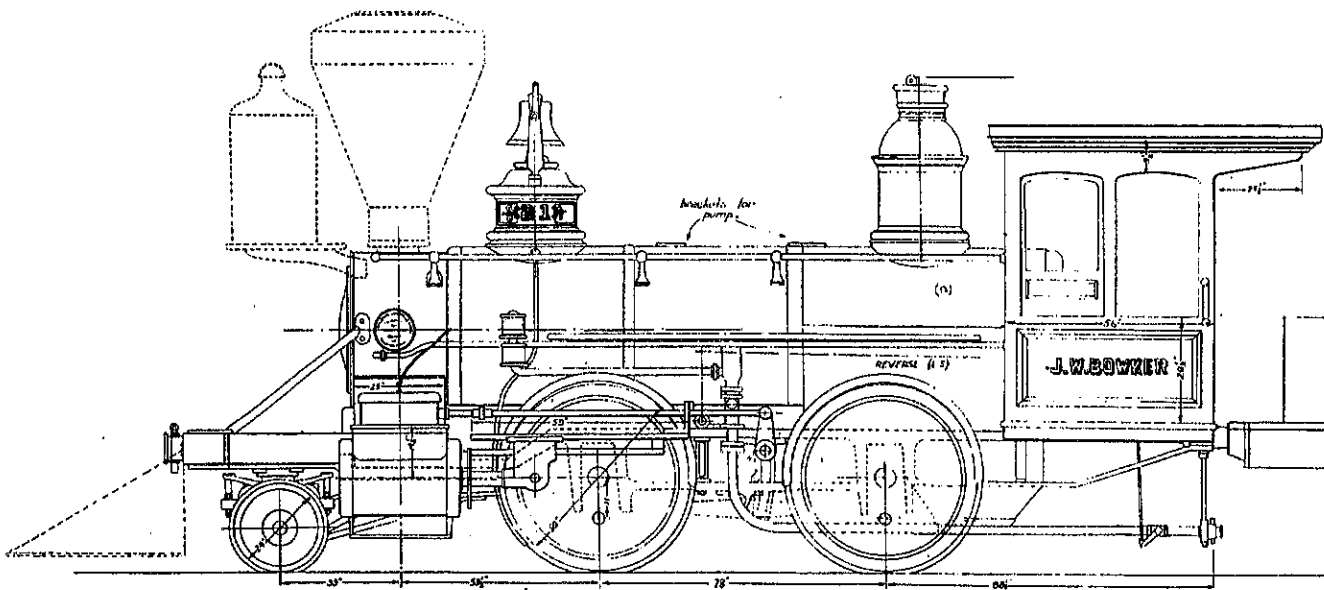
- Addition of early style safety valves and whistle
- Replace cab
- Remove all air brake equipment
- Replumb and refit back head of boiler

Add crosshead pump
Replace boiler jacket
Rework iron pilot
Tender restoration with addition of appropriate tool boxes
and hose reel
Paint and letter to specification.

Total, material and labor

\$20,000

VIRGINIA & TRUCKEE RAILROAD
LOCOMOTIVE NO. 21 *J.W. BOWKER*
AN HISTORICAL OVERVIEW



by
Stephen E. Drew
for the
Twenty-second Annual Virginia & Truckee Symposium
Carson City, Nevada
October 1992

Virginia & Truckee Locomotive No. 21 "J. W. Bowker"

It happened in Nevada, barely ten years after the discovery of gold out in California. But it wasn't gold that was most prevalent but a blue stuff which later assayed as silver. Discovered in Gold Canon in 1859, the rush to the Comstock Lode was on! But mining was different on the Comstock. It wasn't every man for himself...one man...one pan, panning for gold. Mining on the Comstock meant extracting ore...ore eventually thousands of feet below the surface. Large mining companies with huge steam-powered hoisting works, hundreds of miners, and a considerable capital investment. Mining claims, large companies, speculative stock markets, strong personalities, big business...it was all there! The ore required processing and the most economical quartz reduction works were water-powered mills which sprang up 17 miles south along the Carson River. There was an insatiable demand for transportation. Wagons to haul ore to the Carson River mills and, on the return trip, to carry in construction mining timbers, cord wood for fuel, and vast quantities of lumber, machinery and supplies for the growing Comstock communities.

With the developing communities came early purveyors of goods and services. An early arrival among the banking industry was the Bank of California headquartered out of San Francisco. Darius Ogden Mills (1825-1910) was president of the bank and William Chapman Ralston (1826-1875) was cashier and the main organizer. With respect to capital and resources,¹ the Bank of California in the 1860's was unrivaled on the coast. Sent from San Francisco to open the Agency of the Bank of California of Virginia City was William Sharon (1821-1885) who had operated a store in Sacramento and later a stock brokerage firm in San Francisco. The year was 1864. Virginia City had a population of 5,000. Twenty-one miles of shafts and drifts had been excavated and over 60 mills were working on Storey County ores.²

As agent for the Bank of California, Sharon freely lent money at attractive monthly interest rates to desirable mines and mills. But with the initial financial ups and downs of the Comstock, the Bank of California soon found itself owning quite a number of Comstock properties which were managed under the name of the newly formed Union Mill & Mining Company. There were few additional operating economies which could be affected at the mines and mills. The costly variable was transportation. When the Carson River was running high and the mills were at peak production, wagon roads were often wet and the freighting teams expensive, unreliable and unable to keep up with the volume. The answer? A railroad.

In a legendary terse exchange recorded later by Eliot Lord (1851-1928) of the U.S. Geological Survey, Sharon sent for the leading surveyor of the district, Isaac E. James (b.1830) and asked: "Can you run a road from Virginia City to the Carson River?" "Yes!" answered the surveyor with equal brevity. "Do it, then, at once!" replied Sharon.³

The Virginia & Truckee Railroad Company was incorporated in Nevada on March 5, 1868--seventh in a succession of railroad lines proposed since 1861 to help solve transportation problems on the Comstock. Principals in the railroad were Sharon, Mills, Ralston and Canadian Henry Marvin Yerington (1829-1910) who had lost his Merrimac Mill to the Union Mill & Mining Company and threw his hat in with the Bank of California crowd. Ground was broken in March of 1869 and the first train made it over the completed 21-mile circuitous route from Carson City up to Virginia City in January 1870.⁴ A 31-mile extension north from Carson City to Reno in 1872 connected the V&T with the Central Pacific Railroad Company's transcontinental rails at Reno. The line between Carson and Virginia City had a 2.2% grade and a cumulative curvature of more than 17 complete circles in but 21 miles. Many viewed the V&T as one of the country's crookedest railroads with tales of a locomotive often appearing to be following its own caboose up the hill. The added length of yard and side tracks to the mines and mills almost exceeded the length of the standard-gauge main road.⁵

The first three steam locomotives for the Bank's new railroad came from H. J. Booth & Co's Union Iron Works founded in 1849 at the corner of First and Mission Streets in San Francisco. Three months later, Sharon ordered two locomotives from M. Baird & Company's Baldwin Locomotive Works in Pennsylvania. Baldwins became the V&T's locomotive of preference--2-6-0 "moguls" for freight service and 4-4-0 "Americans" for passenger and local mixed trains. In an era when steam engines represented one of man's most powerful inventions, locomotives were bestowed endearing names as well as sequential roster numbers. The V&T's early steam locomotives had picturesque place names--"Lyon", "Ormsby", "Storey", "Virginia", "Carson", "Comstock", "Nevada", "Humboldt", "Washoe", "Reno", "Genoa", "Empire", "Esmeralda", "Aurora", "Ophir", "Columbus" and "Dayton". The sole exception was V&T Locomotive No. 9 which was named "I. E. James" in honor of the skilled chief engineer and surveyor of the line; the locomotive was built by Baldwin in 1870 as a 2-4-0. Outfitted with fire-fighting apparatus in 1873, it was the assigned switch engine in the yards at Carson City and the wood yard tracks immediately south of town. Toward the end of 1874, the railroad's physical plant was still expanding in a crescendo to the eventual Big Bonanza of 1876-77. The Company had paid its first cash dividends. The railroad had 18 steam locomotives and several hundred freight and passengers. The V&T had sent orders to Baldwin for two more 2-6-0's--Nos. 19 "Truckee" and 20 "Tahoe"--and they were renting engines from the Central Pacific Railroad--two 4-4-0's on the line and a CP switching engine in the yard at Reno. But increasing business demanded more cars and locomotives.

1875 - 1896

On December 19, 1874, Baldwin entered the order from the V&T for two additional steam locomotives--No. 21, a 2-4-0 switch engine for Virginia City and No. 22, an additional 4-4-0 for passenger operations and use around Gold Hill.⁶ Four-and-a-half years earlier, Baldwin had used a modified Chicago &

Northwestern specification for the V&T's 2-4-0 "I. E. James." But to meet the V&T's more specific requirements for their second 2-4-0, Baldwin devised an entirely new specification--class 6-22 C. Class 6-22 C was Baldwin's internal code for designating a six-wheel engine with four connected driving wheels and 14-inch diameter cylinders. No. 21 was assigned 6-22 C 1--the first locomotive of this class. This unique number was stamped on scores of parts as they moved through various stages of the Baldwin plant and the number is visible on many original components still with the locomotive today. Baldwin apparently thought the new class had some marketing potential. A Baldwin builder's photograph of the completed engine was included along with specifications in various Baldwin promotional catalogs well into the 1880's. Of the Virginia & Truckee's 27 all-time new steam locomotives, No. 21 is the only one for which a classic "builder's photo" survives. Baldwin, for their part, eventually built a dozen wood, coal or oil-burning 6-22 Cs like the V&T No. 21 between 1875 and 1925.

In an 1874 Christmas Day letter to major V&T stockholder D. O. Mills in San Francisco, V&T General Superintendent Henry M. Yerington discussed the order for engines and he proposed his names for the two new Baldwin locomotives:

I am very glad you thought it best to order the two switching engines and I at once telegraphed Baldwin to send them along soon as possible. I note your telegram about ordering two engines like "Reno" or "Genoa," instead of like "James" and one same as "Genoa." I replied that the "James" was more suitable for the work to be done for the reason she is built with great weight on drivers which are unsafe: she does not slip easily and thenceforth pulls a very heavy train for as light an engine. She is quick and very hardy, never gets off track and seems to be able to run--as our yard men say on a heavy dew in safety. She is very light on track and altogether she is the best engine I ever saw and is the admiration of all R.R. men that see her. I know she is what we want in the Virginia yard and costs \$1000 less money than the "Genoa." The latter is just what we want at Gold Hill and to work between there and Silver. Since writing you from S.F. I find it would be an excellent idea to get Baldwin to put a steam fire pump on the Virginia switch engine, same as the one now on "James," and then in event of fire in or around our premises at Virginia or Gold Hill--particularly in the tunnels--we have a ready and efficient means at hand to save our property. The cost won't be much and I hope you will sustain my action in asking Baldwin to put on the pump of which I telegraphed you on Wednesday and on the same day wrote Baldwin relative to the matter.

I named the two first engines ordered from Baldwin Works "Truckee" and "Tahoe" and after thinking the matter over would like to name the Virginia switch engine "J. W. Bowker" after our Master Mechanic. It would please the old man, more particularly as the Carson switch engine was named after James, our Chief Engineer. The Gold Hill engine I propose to name "Inyo." The names are short and the Indian one I think pretty

and suggestive and hope they will strike you as being appropriate.⁸

John William Bowker was an innovative railroad machinist. Born about 1814 in Massachusetts, J. W. Bowker had accumulated 20 years of experience by 1865 when he and his 20-year old wife were living in California. A front page illustrated article in the September 25, 1869 issue of the San Francisco **Mining & Scientific Press** heralded Bowker's latest invention of an improved locomotive smoke stack and spark arrester then on exhibition. The upper portion of the stack contained three perforated plates which served to arrest fleeing sparks. Bowker, at the time, was a resident of Sacramento and held positions with the Central Pacific and California Pacific Railroads and H. J. Booth & Company in San Francisco. His spark arresting stacks were in use on the California Pacific, Central Pacific and San Jose Railroads. U.S. Patent No. 95,975 was issued October 19, 1869 to Bowker for his "Improvement in Spark-Arresters."

By October 1872, J. W. Bowker succeeded B. P. Campbell and I. H. Graves to become the V&T's third master mechanic at the company's first shops at Virginia City. John F. Uhlhorn's 1873 **Virginia & Truckee Railroad Directory** lists Bowker's home as 208 South "D" Street in Virginia City where he resided with his wife and three children. Bowker arrived on the V&T at a fortuitous time. He oversaw the ordering of several new V&T locomotives, nearly a dozen passenger cars and more than a hundred freight cars including an innovative combination flat car and ore car of his own design. These half-a-dozen cars had a central ore bin with sheet iron sides which collapsed when empty onto a wood platform to form a conventional flat car: the design was well suited to the V&T's unique requirement of ore cars for the trip down from Virginia City and flat cars for lumber and wood on the return trip up the hill.

When it came time to establish larger and more centrally located V&T shops at Carson City during 1872-73, Bowker was instrumental in laying out the main 50,000+ square foot facility and outfitting it with machinery. The complex became the most comprehensive shop facility in western Nevada and eastern California.¹⁰ J. W. Bowker and his family moved down to Carson City upon the completion of the shops. Bowker's strict 19 shop rules published and posted early in 1874 admonished employees to be on time or two hours would be deducted if the employee was more than five minutes late.¹¹ Shop wages were paid by the hour at ten hours per day and shop employees totaled 125 men or one-third of the railroad's workforce. It is little wonder why General Superintendent Yerington named the new Virginia City switch engine in honor of the railroad's revered master mechanic J. W. Bowker!

V&T locomotive No. 21 was built by Baldwin with a straight, 40-1/2 inch diameter iron boiler containing 122 1-3/4 inch tubes, a steel fire box and the boiler covered with felt insulation. The two cylinders measured 14 x 22 inches. Baldwin class 6-22 C 1, drawing No. 1 was a standard-gauge 2-4-0, construction No. 3689, with two 24-inch diameter lead wheels and four 48-1/4 inch

diameter flanged drivers. The rigid wheel base was a trim 6-1/2 feet for switching service. The trailing eight-wheeled tender held 1,200 gallons of water and approximately two cords of wood. The 65,000-pound locomotive was outfitted with a bonnet-style smokestack and a huge 23-inch diameter kerosene headlight from Crerar, Adams & Company in Chicago. With a working boiler pressure of 130 pounds, the V&T's Virginia City switch engine had a rated tractive effort of 9,970 pounds. Baldwin designated the engine's finish as wine color style 1, general finish K 4, just like the V&T No. 9 "I. E. James" in the Carson City yards. The tender tank was lettered V. & T. R. R. and brass plates bearing the name J. W. Bowker were applied to the two cab name panels. A profusion of striping adorned most edges and surfaces.

Baldwin and D. O. Mills attempted to sell H. M. Yerington on the many benefits of applying injectors to the "Bowker" and other V&T engines under construction in January 1875. But Yerington was adamant about furnishing the locomotives only with conventional crosshead pumps for inducing feedwater into the boiler. In a January 2nd letter to Mills, Yerington noted:

I note your remarks about "Injectors" for the new engines and in reply beg to say that our experience proves they are not suitable for us. We have two on our Cooke engines and after giving them a fair trial was obliged to give them up and rely on pumps entirely. On a long road where trains are frequently on side track for a length of time "Injectors" are first rate for an engine can be "pumped-up" without the necessity of cutting off from train and running to pump. Here we run our trains so close side tracks are seldom used and as pumps are **infinitely** more reliable they certainly ¹²are preferable for us and I hope Baldwin won't make the change.

It would be several more years before V&T management accepted improved injectors in lieu of crosshead pumps!

Sparks from locomotive smokestacks were a recurring source of local fires. Shortly after sparks from the Carson yard engine "I. E. James" caused more than \$5,000 damage to Samuel Longabaugh's wood yard by the Mexican Mill on May 26, 1873, Yerington ordered a Krombig steam fire pump from the Central Pacific in June and installed it on the "I. E. James" along with suction and fire fighting hoses. As the Virginia City switch engine, the "Bowker" was built by Baldwin with a Knowles steam fire pump mounted atop the boiler, two 50-foot suction hoses and a 500-foot iron hose reel complete with couplings and nozzles on the rear of the tender. This 1862-patent pump is still on the locomotive today.

The completed "J. W. Bowker" and V&T 4-4-0 No. 22 "Inyo" left Philadelphia on March 2, 1875 and the "Bowker's" fire fighting apparatus on rails was eagerly awaited by a tindery Comstock community.

NEW LOCOMOTIVES. The Virginia and Truckee Railroad Company expect two fine new locomotives to arrive here from the manufactory in the East in a few days. One of these, the "J.

W. Bowker," will be used in this city as a yard engine. It is provided with a powerful fire apparatus, and will be capable of doing as good work at a fire as one of our steamers. The locomotive, equipped as it is, will be quite an acquisition to this city. As it will be like a steam fire-engine prancing about all fired up ready for business. On the engine will be carried \$1,000 worth of carbonized (sic) hose, which will always be just where it is wanted and in readiness for instant use. In case of a fire in any of the railroad tunnels or in a building anywhere along the railroad track, this locomotive fire-engine will be of great use. With the "Bowker" will be brought out the "Inyo," which will do duty as a yard engine at Gold Hill. This is also a fine locomotive, but it is not provided with a fire-engine. A photograph of the "J. W. Bowker," exhibited to us yesterday by Mr. Yerington, Superintendent of the Virginia & Truckee Railroad, shows it to be a magnificent locomotive.¹³

What the Virginia City Territorial Enterprise referred to as carbonized was noted by Baldwin as carbolized hose.

Accompanied by the customary Baldwin messenger, the two new locomotives were received on schedule via the Central Pacific at Reno on March 22nd and were sent 31 miles south to the Virginia & Truckee's Carson shops where the "Bowker" was initially set-up and prepared for service. Within a week the engine was test operated in the Carson yards where it quickly attracted the attention of a Territorial Enterprise reporter:

The "J. W. Bowker" is designed for a yard-engine. It is a four-wheeler with pony-truck connection. The cylinders are 14 x 20 (sic). The boiler is surmounted with a fire extinguishing apparatus, which is provided with 500 feet of hose, has four suction, and makes two deliveries, with a donkey pump, 8 x 10. The locomotive is complete in every respect, and is possessed of a vast amount of energy. Master Mechanic Bowker says that inasmuch as the locomotive, which bears his name is of age (showing "21" on its head-light) he is willing to trust it out of his sight, and¹⁴ accordingly it will be assigned to duty in the Virginia yard.

Accepted by the V&T, No. 21 was invoiced by Baldwin at \$8,185 f.o.b. Carson City plus \$1,198.37 for the Knowles steam pump and fire fighting equipment. The V&T's first ledger entries for repairs on the locomotive denote \$52.62 expended on the fire pump plus \$82.13 in the paint shop.

The new engine would have reached Virginia City service sooner had it not been for an unfortunate misaligned Carson stub switch which derailed the 2-4-0 and caused minor tank repairs plus a few broken bolts on April 19, 1875. With V&T Master of Transportation Captain Harry Hunter and Superintendent Yerington as passengers, the "J. W. Bowker" formally made its maiden trip up to Virginia City on Friday April 23, 1875 where it was placed in charge of engineer John Webster. Two days later, the capabilities of the impressive fire fighting equipment were satisfactorily

demonstrated for eager Virginia City journalists and residents:

The fire engine attached to the "J. W. Bowker" was tried Sunday afternoon, at the depot, and found to work admirably. The engine has, for the purposes of home protection, a complete fire-extinguishing apparatus, and will doubtless prove very serviceable in case of fire at or around the depot, or on the line of the railroad, if not at a distance of over 500 or 600 feet from the track. At the trial made yesterday, a stream was thrown from the depot completely over Piper's Opera House, flooding the roof from end to end. A stream was also thrown up and across D Street, and the sidewalk wet down as far north as the car-shed. One hundred feet of hose was then attached, and a solid stream thrown 200 feet. Through fifty feet of hose a stream, directed against the depot building and accidentally dropped to the covered awning, loosened several shingles and tore one completely off, thus showing the force and body of the stream. The trial was made under the personal supervision of Charley White, yardmaster, and was satisfactory.¹⁵

The "J. W. Bowker" measured up to V&T operating expectations, setting out empty and picking up loaded flat, box and ore cars. The brightly painted locomotive quickly became a well-known, working Virginia City resident. Only the engine's early-rooted affection for misaligned switches caused it occasional embarrassment. When an early morning wrong switch sent the "Bowker" sailing off the end of the track into the Virginia City turntable pit on June 12, 1875, a couple of days repair totaling \$52.83 were required before the switch engine returned to service for further battle.

But regrettably, J. William Bowker's namesake lasted longer with the Virginia & Truckee than he did. Within four months of the engine's notable arrival, Superintendent Yerington was obliged to dismiss the celebrated master mechanic for reasons he enumerated in a July 15, 1875 letter to Darius Mills:

I regret to say that I have been obliged to discharge Bowker. During the past year or two I have had any amount of trouble with him on account of his senseless jealousy of nearly every other foreman on the road and his foul mouthed abuse of them and our engineers. He has managed to quarrel with nearly every one of them and much of my time and patience has been used up in trying to fix up things 'till I am tired of it. Yesterday I sent him up to the Vivian Mine, at Silver, to see about some machinery they are putting up. He returned in P.M. full of Whiskey, went over to shops and at once commenced to abuse his foremen (one of the best we ever had on the road) outrageously and without cause. This was done in presence of the other men and it resulted in a tendency to general demoralization of our shops. On learning the facts I at once dismissed him and put shops (Machine Shop) in charge of the Foreman who has had 17 years of experience and is a capable man, able and willing to handle the shop as it ought to be. We shall thus save \$250 per month--Bowker's salary--and our business well looked after with nothing further to report.¹⁶

D. L. Kendrick from the Union Pacific Railroad soon replaced J. W. Bowker as V&T master mechanic. Bowker was expelled on November 27, 1876 from the Virginia City Fire Engine Company. The last mention of him in local newspapers is a January 16, 1877 item in the **Territorial Enterprise** indicating Bowker was then a chief engineer on one of the steamers plying the waters between San Francisco and China! Within months of his departure from the V&T, the name of the Virginia City switch engine was changed from "J. W. Bowker" to the less personal name of "Mexico."

Even after the dismissal of Master Mechanic Bowker, No. 21's first year on the V&T continued eventfully! The engine was out of service the entire month of September. The dangers of flanged wheels on steel rail came home to Fred Bulatti who was run over by No. 21 in the Virginia yard on October 18th: A. C. Grant was engineer. Bulatti died the next day.

No. 21 fortunately escaped the great Virginia City fire of October 27, 1875 and it worked in the Carson City yards the ensuing month. In December, the 2-4-0 returned to yard service in Virginia City with an occasional light freight trip over the road between Virginia and Carson. Routinely serviced in the short line's shops down at Carson, No. 21 was housed most nights in the V&T's original four-stall roundhouse in Virginia City.

The year 1876 dawned with No. 21 in the shop for extensive repairs during February. Then, on July 13th, the 2-4-0 had what may have been its most self-damaging incident. While the engine's regular engineer was at breakfast, No. 21's fireman, William McDade, was running the locomotive down-grade towards the ore-house of the Ophir Mine. As he approached, he noticed that the ore chutes were still in a down position and he attempted to stop the locomotive. Steam was shut off but the manual brakes were insufficient to stop the 65,000-pound engine and it went crashing into the chute! The headlight was shattered, the smokestack was torn off, taking with it the bell, sandbox and whistle, etc. The Ophir chute was torn from its fastenings and a full ton of ore was scattered. McDade jumped 20 feet off the Ophir trestle and was picked up "insensible." No. 21 was unable to proceed on its own and was hauled to the roundhouse for repairs. By October, the woodburning 2-4-0 was back in service renamed as the "Mexico" and in charge of engineer A. Freeman.

To date, no photographs have surfaced of V&T No. 21 during its 20-year career on the Virginia & Truckee Railroad. A photo credited by Lucius Morris Beebe (1902-1966) and Clegg Myron Clegg, Jr. (1916-1979) on page 34 of their book **Steamcars to the Comstock** as showing the "Bowker" at Virginia City was actually taken outside Southern Pacific's old West Oakland roundhouse in 1938. In the absence of a good photographic record, we are forced to glean the early history of No. 21 primarily from fragmented surviving Virginia & Truckee records.

During 1877, No. 21 was overhauled at the V&T's Carson City shops. Early in 1878, the engine was variously in yard service at Virginia City and Carson City. One November 1878 payroll denotes

H. M. Freeman as engineer on the "Mexico," working seven days a week at the rate of \$4.50 per day. But mid 1879, re-use of the name "J. W. Bowker" re-emerges in lieu of "Mexico"--the reasons for which we can only make a nostalgic guess.

After what appears to be fairly consistent use during the early 1880s, No. 21 was again overhauled in the Carson shops during November 1884; it is probably at this time that the shops rebuilt and reinforced the tender frame with wrap-around plates as they did to so many other V&T tenders. Repairs during 1888 included work in the Carson blacksmith shop, a new 251-pound grate, tender brasses and a pair of 26-inch tender wheels. In the midst of a long decline in Comstock mining activity and, correspondingly, a decline in V&T freight traffic, the "J. W. Bowker" was replaced as the regular Virginia yard engine--not unsurprisingly by the town's namesake locomotive, the 1869 V&T 2-6-0 named "Virginia." The "Bowker" was relegated to back-up switching duties with only occasional service over the road.

1890 dawned with a \$3.66 bill for three more "Bowker" brake shoes cast in the V&T's foundry. The engine was out of service, not needed for most of 1891. The following year, the locomotive appears again on the active list with occasional switching and road responsibilities. The 1890s were quiet years on the V&T. Shop ledgers next charge up \$3.06 for three more brake shoes for the locomotive in March 1896 and the 2-4-0 was briefly in the Carson shops again June 25th-27th of 1896. Effective July 1, 1896, the V&T sold the fabled locomotive for \$4,000 to the Sierra Nevada Wood & Lumber Company over at Hobart Mills, California. Relettered by the V&T as "S. N. W. & L. Co." No. 3, the two decade-old locomotive began a new career switching log cars over the eight miles between Hobart Mills and Southern Pacific tracks at Truckee, California. The earliest photographs of the engine at Hobart perhaps summarize best the culmination of two decades of repairs and upgradings by the V&T's Carson City shops: wood footboards in place of an iron-rod pilot, a new smokebox front, a different headlight, injectors in place of crosshead pumps, a new wood cab, a tender-deck tool box and removal of the engine's tender hose reel and fire hose hooks. Also the V&T successfully tried plate wheels under a number of their locomotive tenders beginning in the early 1880s and these rare "paper wheels" are still under the locomotive today. Additional modern appliances like air brakes and knuckle couplers were still a thing of the future for the 32-ton 2-4-0.

1896 - 1937

For more than a decade the Virginia & Truckee shops were a regular source of materials, parts and repairs for the Sierra Nevada Wood & Lumber Company. Parts for SNW&L locomotive No. 3--old V&T No. 21--were regularly purchased by the Hobart firm from the V&T's supply department at Carson City. But when heavy repairs were required in 1900, SNW&L rented the V&T's 1872 4-4-0 No. 12 "Genoa" for \$15 per day while the ex-"Bowker" was overhauled once again at Carson City. Between August 4th and September 9th, 1900, the ex-V&T No. 21 received new 1-3/4 inch

tubes, side grate bars, new drawhead castings, driving boxes, a cast iron engine step and brakes. The locomotive left the V&T's Carson shops for the last time at 5 o'clock a.m. on Sunday morning September 9th. It arrived under steam in Reno at 7:10 a.m. in the charge of Charles James Rulison (1861-1946) and Charles "Cooney" Pohl and it soon departed for Truckee together with a V&T shop invoice for \$1,308.66.

A dozen V&T flat cars were sold to the Sierra Nevada Wood & Lumber Company in 1900-1901 and occasional part requisitions for the locomotive were still being filled by the Carson shops as late as May 1907. V&T crews installed new Baldwin pistons in 1902 over at Hobart. Air brakes were soon applied and a homemade wood snow plow was fastened to the engine during the winter months. But the locomotive was in regular operation at SNW&L for apparently only a decade or so before it was retired to the Hobart Mills roundhouse. During a July 1915 visit to the property, SP photographer and historian David Lindsay Joslyn (1886-1963) was surprised to find the engine intact and briefly recounted his discovery in a letter to railroad artist and author Albert Sheldon Pennoyer (1888-1957):

We were literally astounded when we walked into the roundhouse at Hobart Mills and found the old "J. W. Bowker" sitting there in a dark corner. It was like stepping from the present into the past. I went all over the engine and had a good look at all parts of it, and was deeply interested in all the old earmarks that still remained about the thing.

I hunted up the Master Mechanic of the Hobart Railroad and asked him when they got the engine, where they had used it and all about it. He could tell me very little as he had been with Hobart's only ten years and she was there when he took the position of M.M. with them. He did know, though, it was used to plow snow from the tracks between Hobart Mills and Truckee and had not been in that service for quite some time.¹⁸

For the following 20 years the locomotive sat almost undisturbed on the property of the Hobart Estate Company and the Hobart Southern Railroad--successors to the 1896 Sierra Nevada Wood & Lumber Company. Fortunately, the Hobart family was loathe to throw anything away!

1937 - 1992

With the official organization of the Pacific Coast Chapter of the Railway & Locomotive Historical Society on July 8, 1937 in the Bay Area, preservation of the former "J. W. Bowker" was assured by the Chapter's first chairman, Gilbert Harold Kneiss (1899-1964):

Prior to the formation of the Chapter, I, as Pacific Coast Representative, had secured donation of the Virginia & Truckee locomotive "J. W. Bowker" from the Hobart Estate Company, Truckee, Calif., and the narrow gauge coach "Silver State" from the Nevada Central Railroad in Nevada. The Southern Pacific agreed to furnish free transportation to Oakland for both pieces of equipment.

I had learned of the "Bowker's" whereabouts through a railroad history exhibit in the Leamington Hotel early in 1937. The group running the show had asked to borrow the headlight for the occasion and had been turned down in a letter which was on display. At the time it seemed that asking for the locomotive as a gift might be more successful than trying to borrow the headlight, and sure enough it was!

The "J. W. Bowker" arrived in Oakland, California, September 10, 1937, and was unloaded and stored for the Society in the Key System West Yerba Buena yard. Permission was obtained for members of the Chapter to work on the restoration of the engine to its original appearance at every opportunity. When the rainy season started the Key System kindly moved the engine inside the old power house so we could continue the job. By the use of gallons of paint remover the old color scheme and gold leaf filigree came to light. Paint was donated by W. P. Fuller and soon the "Bowker" looked as good as new.¹⁹

Since its acquisition by the Pacific Coast Chapter in 1937, the Virginia & Truckee locomotive has been frequently operated for pageants, motion pictures and promotional events on both sides of the country. It has been frequently displayed, variously housed and often repainted and spruced-up so that the intimate details of the famous locomotive's activities over the past 50 years could comprise a multi-volume history. The "J. W. Bowker" is the flagship of the R&LHS Pacific Coast Chapter and its story is a history of the struggles and successes of the emerging Pacific Coast Chapter.

The engine was displayed outside the San Francisco Ferry Building January 15-28, 1938 and it was the first exhibit to arrive at Treasure Island on February 25, 1938 for the 1939-1940 Golden Gate International Exposition. But in June 1938, Paramount Pictures agreed to have the engine restored to operable condition in exchange for loan of the locomotive for filming in the 1939 Cecil Blount DeMille (1881-1959) railroad movie epic "Union Pacific." The needed mechanical work was accomplished in SP's West Oakland shops during August and V&T No. 21 was filmed operating under steam in the Los Angeles area, briefly relettered as the Union Pacific No. 21 "Genl McPherson," for the benefit of "Union Pacific."

In March 1939, the "J. W. Bowker" and V&T "Genoa" were again reunited and sent east for operation at the 1939-1940 New York World's Fair. After a 16-mile publicity trip with several old Baltimore & Ohio coaches on the New York Central's Putnam Division on March 31st, No. 21 operated the first season of the fair pulling a pay car in the daily Edward Hungerford (1875-1948) pageant "Railroads on Parade." During the 1940 pageant season, the wood-burning engine was relettered S.V.R.R. No. 21 for a daily scene pulling a Sacramento Valley Railroad pay car. Returning to California, the locomotive operated on March 8, 1941 at the dedication of SP's new Palo Alto station and highway underpass.

The advent of World War II ushered in waves of patriotic scrap

drives. To safeguard their collection of "iron," the Pacific Coast Chapter secured property on the Pacific Guano Works in Berkeley where they surrounded six pieces of historic equipment behind high wood fences. The preservation goal was a proposed railroad museum in San Francisco. From June 1941 until May 1949, the Chapter kept watch over what they affectionately dubbed their "West Berkeley enginehouse." Thank goodness their efforts were successful for behind the high fences were such treasures as the Chapter's two narrow gauge passenger cars and four steam locomotives including the V&T "Empire" and "J. W. Bowker!"

The "Bowker" was next displayed for the second season of the 1948-1949 Chicago Railroad Fair opening on June 25, 1949. In exchange for boiler work by the Rock Island shops, the R&LHS loaned the 2-4-0 to Republic Pictures for filming in Oklahoma without her Knowles fire pump. The film footage of No. 21 pulling two B&O coaches was used in Republic's 1949 release "Rock Island Trail" and again in the company's 1957 production entitled "Last Stagecoach West." More specific details on the exact dates of engine movements, etc. are included in the Chronology accompanying this paper.

Briefly returning to Chicago for the conclusion of the fair, the "Bowker" soon joined the Chapter's V&T "Genoa" at the Western Pacific Portola roundhouse in storage arranged by Gilbert Kneiss, now WP Assistant to the President. No. 21's next 130-pound boiler operation under steam was on 510 feet of track for the State of California Centennials Commission pageant up at Redding with California Governor Earl Warren (1891-1974). Storage followed this time at the WP roundhouse in Oakland.

Promotional operation of the "J. W. Bowker" for the proposed Aquatic Park Railroad and Maritime Museum occurred on the San Francisco Embarcadero on May 27, 1951 and again on June 23, 1953 when the woodburning 2-4-0 last operated under steam. Following storage again in Oakland, the Baldwin locomotive received a cosmetic renovation at the Bethlehem Steel shipyard in San Francisco; a new cab and a complete repainting cost the Chapter \$7,892.35 in 1969. The work was performed under the direction of the Chapter's late chairman Frederick Arthur Stindt (1911-1992). Trucked to Sacramento, No. 21 was displayed at the SP depot during May 1969 Golden Spike Centennial celebrations.

Frustrated by fruitless attempts to develop a home for their equipment collection in the Bay Area, the Pacific Coast Chapter began a succession of magnanimous gifts in presenting a collection of ultimately 33 locomotives and cars to the State of California Department of Parks and Recreation for the new California State Railroad Museum under development in Old Sacramento. The "Bowker" was included in the first gifts of equipment effective August 10, 1969. Following seven years storage inside a refrigerated Safeway Stores food distribution warehouse in east Sacramento, the "J. W. Bowker" was cleaned and rolled into the California State Railroad Museum's newly reconstructed 1876 Central Pacific Railroad Passenger Station which opened on July 3, 1976 in Old Sacramento. The exhibit represented the culmination of decades of care,

planning and waiting by the Pacific Coast Chapter. Here the engine has remained on daily public exhibit with the exception of a week in April 1987 when it was briefly trucked back to the Bay Area for the Museum's Great San Francisco Railroad Fair along the San Francisco Embarcadero.

The "J. W. Bowker" is the California State Railroad Museum's last unrestored mid-Nineteenth Century locomotive. The first of an entire new class of locomotives built by the Baldwin Locomotive Works, V&T No. 21 has been intentionally saved for prominent exhibit in the CSRM's new Museum of Railroad Technology which is currently under development with architects and exhibit designers. The straight-style of No. 21's original iron boiler also makes the locomotive a high candidate for possible reboiling and future reoperation by the Museum. Star of the silver screen and exhibitions from coast to coast, the "J. W. Bowker" is one of the California State Railroad Museum's most popular locomotives and it is the subject of scores of live steam and scale models by railroad enthusiasts worldwide. After 117 years, who would have guessed that the once proud V&T namesake of John William Bowker exists as this country's sole surviving example of a Baldwin 2-4-0-type locomotive?

- Stephen E. Drew

Sacramento, California
October 1992

Footnotes

- 1 Wilson, Neill Compton. **400 California Street: The Story of the Bank of California, National Association and its First 100 Years in the Financial Development of the Pacific Coast.** San Francisco, California: Hooper Printing & Lithograph Co., 1964.
- 2 *ibid.*
- 3 Lord Eliot. **Comstock Mining and Miners.** Reprint of 1883 edition. Berkeley, California: Howell-North Books, 1959.
- 4 **Territorial Enterprise**, March 6, 1869 and **Gold Hill News**, January 29, 1870.
- 5 Wright, William (Dan DeQuille, pseud.) **History of the Big Bonanza...** San Francisco, California: A. L. Bancroft, 1876.
- 6 The original Baldwin order book containing the specifications for V&T No. 21 is held by the DeGolyer Collection, Southern Methodist University, Dallas, Texas. Several institutions have microfilm copies including the California State Railroad Museum Library, Sacramento.
- 7 The V&T's original framed Baldwin builder's photograph showing the full locomotive is held by the Nevada State Museum, Carson City. Photos of the engine only were tipped into Baldwin catalogs.
- 8 H. M. Yerington to D. O. Mills, letter, December 25, 1874. V&T Records, Special Collections, University of Nevada, Reno.
- 9 While partial drawings exist, no examples of these unusual six cars survive.
- 10 Drew, Stephen E. **Virginia & Truckee Railroad Carson City Enginehouse and Shops: An Historical Overview.** Prepared for the Twentieth Annual Virginia & Truckee Symposium, Carson City, Nevada, October 1990.
- 11 Bowker, J. W. **Shop Rules.** Carson City, Nevada: Virginia & Truckee Railroad, 1874.
- 12 H. M. Yerington to D. O. Mills, letter, January 2, 1875. V&T Records, UNR.
- 13 **Territorial Enterprise**, March 14, 1875.
- 14 *ibid*, March 26, 1875.
- 15 *ibid*, April 27, 1875.
- 16 H. M. Yerington to D. O. Mills, letter, July 15, 1875, Special Collections, UNR.
- 17 **Nevada City Transcript**, July 13, 1876.
- 18 D. L. Joslyn to A. S. Pennoyer, letter. **Locomotives in Our Lives: Railroad Experiences of Three Brothers for More Than Sixty Years, 1890-1951.** New York, New York: Hastings House, 1954.
- 19 "25 Years: A History of the Pacific Coast Chapter, Railway & Locomotive Historical Society, Inc." **The Western Railroader** No. 270 (June 1962). San Mateo, California: The Western Railroader, 1962.

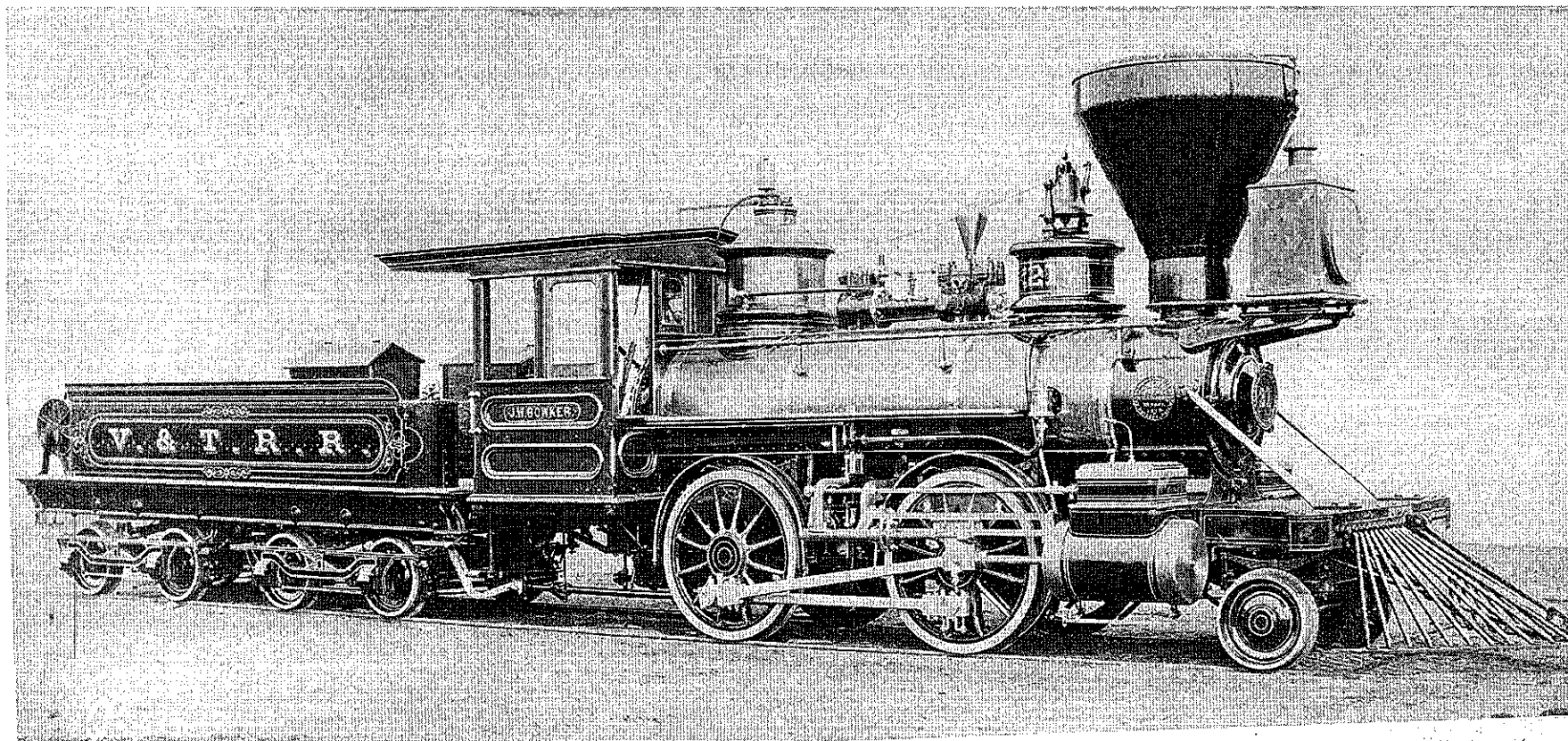
Specifications for One Engines, Class 6/22 Nos. 1.

For *Virginia and Truckee R.R.*

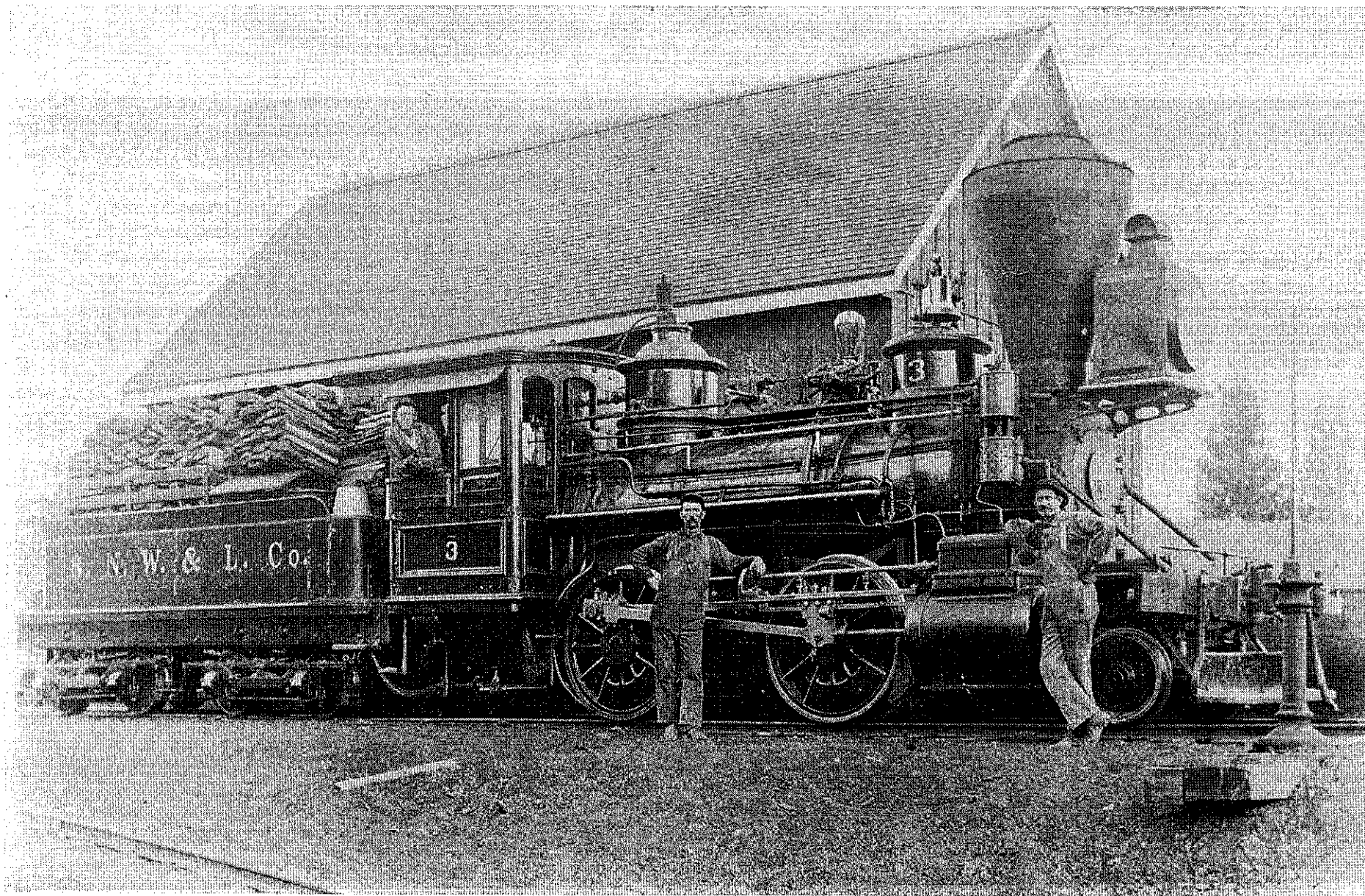
12/19 1874

Drawing No. *1*

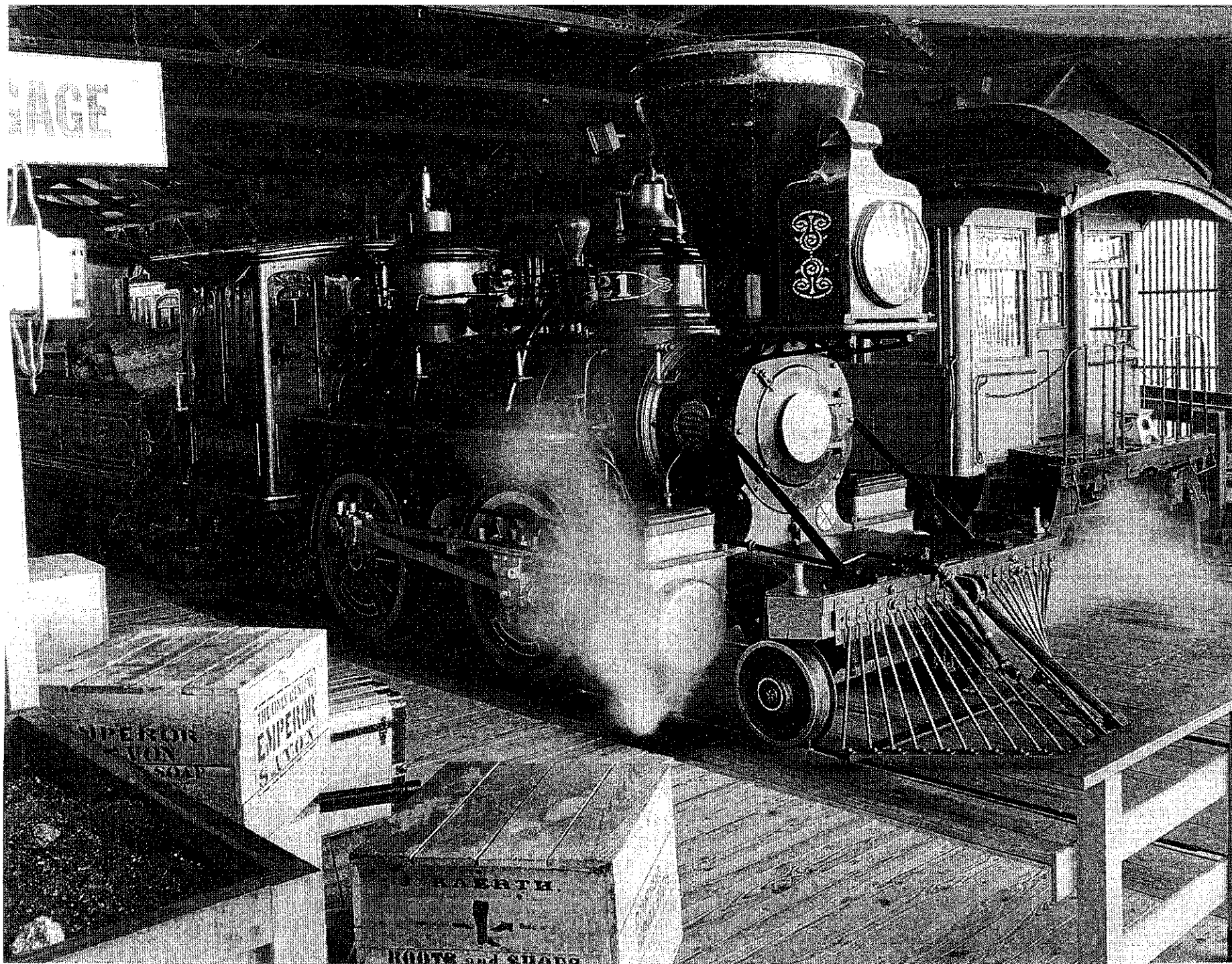
Gauge of Road,	<i>14 Ft. 8 1/2 In.</i>	Play	<i>3/4 In.</i>
Fuel,	<i>Hood</i>		
Boiler Material,	<i>Iron, chipped & calked inside & out</i>		
Diam.,	<i>40 1/4"</i>		
Plan,	<i>Straight</i>	<i>Conrod with felt</i>	
Domes,	<i>No. 28</i>	Position,	<i>For F.B.</i>
Dome Casing,	<i>Brass</i>	Beads,	<i>Iron</i>
Mud Drum,	<i>None</i>		
Jacket,	<i>Russian iron</i>	Bands,	<i>Brass</i>
Safety Valves,	<i>2 B.L.W. Locks; 1 with relief lever</i>		
Gauge Cocks,	<i>No. 3</i>	Position,	<i>Back</i>
Glass Gauge,	<i>With</i>		
Surface Cock,	<i>None</i>		
Blow Off Cock,	<i>B.L.W.</i>	Position,	<i>Front</i>
Fire Door,	<i>Round</i>		<i>For hood</i>
Cleaning Plugs,	<i>Brass</i>		<i>Corners</i>
Rigid wheel base,	<i>6' 6"</i>		
Wheel " "	<i>13' 8 1/2"</i>		
Furnace Material,	<i>Steel</i>		
Length,	<i>60"</i>	Width,	<i>34 1/2"</i>
Chamber,	<i>None</i>	Depth,	<i>38 1/2"</i>
Hollow Stays,	<i>None</i>		
Crown Bars,	<i>Regular</i>	Bolts,	<i>7/8", taper head</i>
Fire Brick,	<i>None</i>		
Tubes, Material,	<i>Iron, copper rings f. & i. end</i>		
Number,	<i>122</i>	Diam.,	<i>3/4"</i>
DRY Pipe,	<i>Hot iron</i>	Length,	<i>96 1/2"</i>
Grotes,	<i>Plain bars</i>		
Ash Pan,	<i>Double damper</i>		
Cylinders, Diam.,	<i>14"</i>	Stroke,	<i>22"</i>
Steam Ports,	<i>13" Long.</i>	<i>1 1/8" Wide.</i>	<i>1" Bridge.</i>
Exhaust " "	<i>13" Long.</i>	<i>2 1/2" Wide.</i>	
Valves,	<i>5" Travel.</i>	<i>3/4" Lap.</i>	<i>1/2" Lead.</i>
Ecc. Throw,	<i>1 1/2"</i>		
Exhaust,	<i>Double</i>		
Oilers,	<i>In cab</i>		
Casing,	<i>Iron painted</i>	Covers,	<i>Iron finished</i>
Stm. Chst. Casing,	<i>Iron painted</i>	Beads,	<i>Iron</i>
Piston Packing,	<i>Spring</i>		
Guides,	<i>Steel, fire bars</i>		
Crossheads,	<i>Cast iron</i>		
Rock Shafts,	<i>Hot iron</i>		
Engine Frame,	<i>Solid</i>	Braces,	<i>Bolted, no</i>
Drivers, Diam.,	<i>48 1/4"</i>	Centre Diam.,	<i>43 1/4"</i>
Journals,	<i>8" Long.</i>	Diam.,	<i>5 1/2"</i>
Tires, Flanged,	Position, <i>All</i>	Kind,	<i>Steel</i>
" " Plain,		Size,	<i>2 1/2 x 5 3/4"</i>
Wrist Pins,	<i>Steel</i>		
Stub Brasses,	<i>Capped</i>		
Spring Staples,	<i>Cast iron</i>		
Wheel Covers,	<i>Brass pipe</i>		
Brake,	<i>None</i>		
Throttle, Kind,	<i>Balance</i>	Position,	<i>Dome</i>
Smk. Stack, Kind,	<i>Bonnet</i>	Diam. Inside Pipe,	<i>14"</i>
Height from Rail,		Netting,	<i>For hood</i>
Pumps, Kind,	<i>2 Brass</i>	Position,	<i>P.T.D.</i>
Top Chamber,	<i>Brass</i>	Bottom Chamber,	<i>Brass</i>
Feed Cock,	<i>Iron</i>	Feed Pipes,	<i>Iron</i>
Check,	<i>Brass case</i>	Check Pipe,	<i>Copper</i>
Injectors, Kind,	<i>None</i>	Size,	
Steam Pipes,		Position,	
Check,		Feed Pipes,	
		Overflow,	
		Position,	
		Pipe,	
Sand Box, Size,	<i>Round, 21 1/2"</i>	Ball on top from f.s.	
Body,	<i>Iron</i>	Beads,	<i>Iron</i>
Pipe,	<i>Iron</i>		
Cab,	<i>Ash painted</i>		
Pilot,	<i>Iron, round bars</i>		
Bumpers,	<i>Hood</i>		
Bumping Blocks,	<i>Size</i>	Apart,	
Pulling Castings,		Hgt. above Rail,	
Pushing Shoes,	<i>None</i>	Can. above Rail,	
		Steps,	<i>None</i>
Truck, Plan,	<i>2 Hhl. iron boiler trad. bar</i>		
Wheels, Kind,	<i>Plate, b.t. Diam. 24"</i>	Taylor's	
Journals, Diam.,	<i>4"</i>	Length,	<i>6"</i>
Wheel Covers,	<i>None</i>		
Tender, Plan,	<i>8 Hhl.</i>	Drawing No.	
Frame,	<i>Hood</i>		
Bumping Blocks,	<i>Size</i>	Apart,	
Trucks,	<i>Sqr. iron</i>	Hgt. above Rail,	
Wheels, Kind,	<i>Plate, b.t. Diam. 26"</i>	Taylor's	
Journals, Diam.,	<i>3 1/2"</i>	Length,	<i>6"</i>
Safety Chains,	<i>Single</i>	Beams,	
Brakes,	<i>Double</i>	Hood from	
Tool Boxes,	<i>Top</i>		
Tank Capacity,	<i>1200 Gallons</i>		
Run Board,	<i>Hood</i>	Nosing,	<i>Brass</i>
Lamp Shelf,	<i>Hood</i>	Nosing,	<i>Brass</i>
Head Light,	<i>23" reflector, to burn Kerosene</i>		
Flag Fixtures,	<i>None</i>		
Steam Gauge,	<i>Brass</i>	Stand,	<i>Brass</i>
Clock,	<i>None</i>		
Bell Stand,	<i>Iron</i>	Sand box,	
Hand Rail,	<i>Brass</i>		
Oil Cops,	<i>Rod B.L.W. Guides</i>		
Number,	<i>2, 1</i>		
Name,	<i>Brass plate in cab read J.W. BOWKER</i>		
Mark,	<i>U. & T. R. R.</i>		
Painting,	<i>Blue color, style 1</i>		
	<i>A first class 6" Hooker steam fire pump - 2 sections of 150' each suction hose - 500' of 2 1/2" carbide light hose, with couplings, nipples - iron reel</i>		
	<i>General Finish</i>		
	<i>" as S.E. James; 14 1/2 p. 53 page 94, second book, etc.</i>		



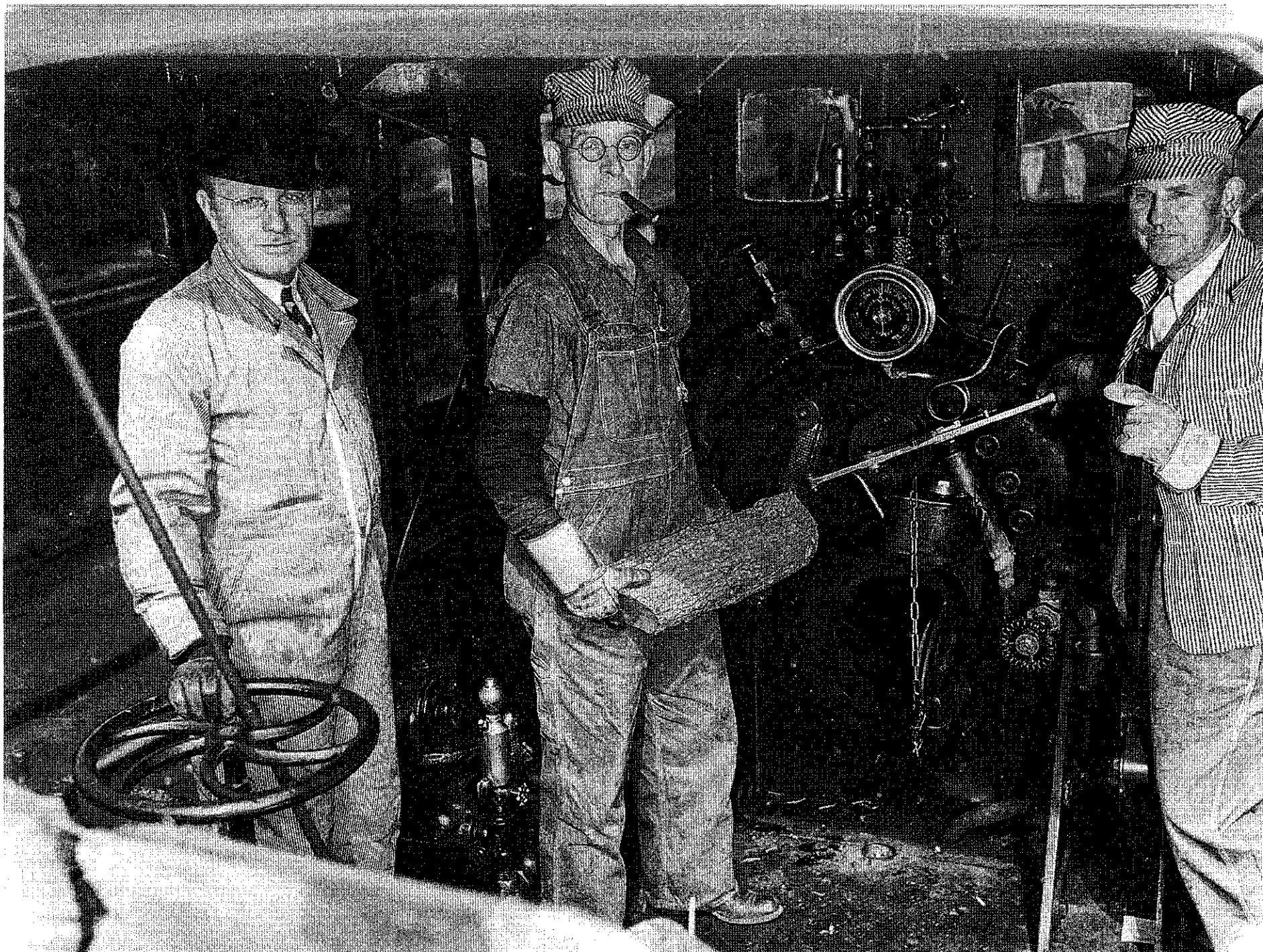
Baldwin builder's photograph taken 1875 of V&T No. 21 "J. W. Bowker."



V&T No. 21 as Sierra Nevada Wood & Lumber Company No. 3, Hobart Mills, California.



V&T No. 21 at the California State Railroad Museum, Sacramento, California.



V&T No. 21 under steam in 1938 with 125-pounds boiler pressure.

Virginia & Truckee Railroad Locomotive No. 21 "J. W. Bowker" Chronology

12/19/1874 Burnham, Parry, Williams & Company, Baldwin Locomotive Works, Philadelphia, Pennsylvania enters order from Virginia & Truckee Railroad Company for standard gauge Virginia City switch engine, V&T No. 21 "J. W. Bowker," BLW class 6 22 C 1, drawing No. 1

late 2/1875 Named for John William Bowker, V&T Master Mechanic 1872-75
Baldwin builder's photo
Completed by Baldwin Locomotive Works, construction No. 3689;
48 $\frac{1}{2}$ "/14x22/130/40,000/48,000/65,000/9,970

3/2/1875 Left Philadelphia with V&T Locomotive No. 22 "Inyo" on own wheels with Baldwin messenger

3/22/1875 Arrived at Reno, Nevada; to V&T Carson City shops to be set-up
Cost new \$8,185 f.o.b. Carson City plus \$1,198.37 for Knowles steam pump and fire fighting equipment
Shop repairs: \$52.62 fire pump, \$82.13 paint shop

4/19/1875 Derailed in Carson yards; repaired

4/23/1875 First trip to Virginia City; placed in charge of engineer John Webster
Into V&T yard service at Virginia City

4/25/1875 Celebrated demonstration of No. 21's fire fighting equipment at Virginia City

6/12/1875 Ran into Virginia turntable pit; \$52.83 repairs

7/13/1875 J. W. Bowker dismissed as V&T Master Mechanic

9/1875 Locomotive out of service all month

10/18/1875 Ran over Fred Bulatti in Virginia yard; A. C. Grant, engineer

10/19/1875 Fred Bulatti died

11/1875 Worked in Carson City yards after Great Virginia City Fire

12/1875 Used as Virginia City switch engine with occasional road duty Virginia-Carson
Housed at Virginia City; regularly repaired at V&T Carson City shops

2/1876 Extensive repairs

7/13/1876 Ran into Ophir ore-house chute: headlamp, smokestack, bell stand, sand box and whistle ripped off; repaired

by 10/1876 Renamed "Mexico"; A. Freeman, engineer

1877 Overhauled at V&T Carson shops

3/1878 In yard service at Virginia City and Carson City

11/1878 H. M. Freeman, engineer of "Mexico"

mid 1879 Use of locomotive name "J. W. Bowker" re-emerges

1880 In regular switching service

10/1881-12/1882 In service; continuous light repairs

11/1884 Overhauled at V&T Carson shops; tender probably rebuilt

1887 Repairs in V&T blacksmith shop

3/1888 Repairs in V&T blacksmith shop

4/1888 New grate, tender brasses \$47.12

6/25/1888 1 pair 26-inch tender wheels \$38.00
Replaced as regular Virginia yard engine by V&T No. 4 "Virginia"
Used in back-up switching and occasional road service

8/8/1890 Brake shoes \$3.66

1891 Not needed; out of service most of the year

2/1892-1/1893 In occasional switching and road service

3/30/1896 Brake shoes \$3.06

6/25-27/1896 Minor repairs in V&T Carson shops

7/1/1896 Sold for \$4,000 to the Sierra Nevada Wood & Lumber Company, Hobart Mills, California as S. N. W. & L. Co. No. 3
Used for switching log cars between Hobart Mills and Truckee, California

8/4-9/9/1900 Returned to V&T Carson shops for general repairs: new 1-3/4 inch tubes, side grate bars, drawhead castings, driving boxes, cast iron engine step and brake shoes. Invoiced for \$1,308.66
V&T No. 12 "Genoa" rented to SNW&L for \$15 per day 8/1-9/9 while No. 3 was in Carson shops for repairs

9/9/1900 Completed SNW&L No. 3 left Carson at 5 a.m.

4-5/1902 New Baldwin cylinder pistons installed by V&T

5/1907 SNW&L still ordering replacement fire box grates from V&T Carson shops

1917 SNW&L Company to corporate successor Hobart Estate Company

1932 HE Company railroad to corporate subsidiary Hobart Southern Railroad Company
Retired; stored Hobart Mills roundhouse

mid 1937 Donated by Hobart Estate Company, George D. Oliver president, to the Railway & Locomotive Historical Society, Pacific Coast Chapter, Gilbert H. Kneiss chairman; acquired for proposed Chapter museum on UC Berkeley campus

9/8/1937 Engine and tender loaded on Southern Pacific flat cars Nos. 78129 and 42601 at Hobart Mills

9/9/1937 Shipped free by Hobart Southern and SP, Hobart Mills-Oakland; 38 hours enroute, Kneiss aboard

9/10/1937 Arrived SP Oakland yards

9/12/1937 Unloaded by Key System
Cleaned by Chapter members in Key System West Yerba Buena yard, Oakland

12/8/1937 Old-time iron-rod pilot designed by David L. Joslyn

1/1938 Painted and lettered V. & T. R. R. No. 21
Moved to San Francisco; switched by AT&SF

1/14/1938 Pilot built and donated by Michel & Pfeffer Iron Works, Inc.; applied in State Belt San Francisco roundhouse
Spotted by State Belt on rodged-up rails by San Francisco Ferry Building

1/15-28/1938 On display outside Ferry building during Chapter's "Iron Horses of The West" Pacific Coast Railroad Show; stored

1/25/1938 Chapter banquet at St. Francis Yacht Club in honor of locomotive restoration

2/25/1938 Ferried by Western Pacific to Treasure Island for storage; first exhibit to arrive for 1939-40 Golden Gate International Exposition

2/27/1938 Simulated under steam for fair media event

6/1938 Paramount Pictures agreed to have engine returned to operating condition in exchange for loan for Cecil B. DeMille's epic railroad movie "Union Pacific"

6/12/1938 Moved into SP West Oakland roundhouse

8/1938 Restored to operating condition by SP West Oakland shops: new tubes

8/31/1938 Successfully hydroed
First reoperation under steam; wood-fired, 130 lbs. boiler pressure

9/1/1938 Test runs under steam at 20 mph to Berkeley and Alameda and return
Loaded on SP flat car No. 79629; shipped to SP Taylor roundhouse, Los Angeles, Kneiss onboard

mid 9/1938 Lettered Union Pacific R.R. No. 21 "Genl McPherson"

12/1938 Filmed under steam on SP Mojave Branch for Paramount's "Union Pacific"; stored SP Taylor yard, Los Angeles

1-2/1939 Filmed under steam at Canoga Park for "Union Pacific"; film released 4/1939

3/1939 Loaded on SP flat car No. 49582
Shipped with V&T "Genoa" and combine 16 to New York: 8 days enroute, Kneiss onboard

3/20/1939 Lettered V. & T. R. R. No. 21 "J. W. Bowker"
Hartford Steam Boiler Certificate of Insurance No. 28231 issued on No. 21

3/31/1939 Operated 16-mile publicity excursion on New York Central's Putnam Division pulling three Baltimore & Ohio wood coaches

4/30-10/31/1939 First season of daily wood-fired operation pulling pay car in finale of Edward Hungerford's pageant "Railroads on Parade" at 1939-40 New York World's Fair

11/1939-4/1940 Stored

5/8/1940 Annual inspection performed at New York Central Van Nest shops
Operated in daily second season of pageant lettered as S.V.R.R. No. 21
"J. W. Bowker" pulling pay car in Sacramento Valley R.R. scene

10/27/1940 Pageant concludes; new balloon smokestack
Returned to California on SP flat car No. 43180; stored in SP West Oakland shops

3/5/1941 Annual inspection at SP West Oakland shops

3/8/1941 Operated at dedication of new SP Palo Alto passenger station and highway underpass
Stored SP West Oakland yards

6/10/1941 Moved to SP West Berkeley due to increased war traffic
Craned onto Pacific Guano Works property for storage

6/1941 Surrounded by high fence with V&T "Empire" and four other Chapter equipment during
WW II scrap drives; known as Chapter's "West Berkeley enginehouse" awaiting
proposed railroad museum in San Francisco

5/3/1949 Moved from Berkeley to WP Oakland yards

5/5/1949 Loaded on WP flat car No. 2633; stack, jewelry items stowed

5/13/1949 Left Oakland at 6:40 a.m. with V&T "Genoa" for free routing via WP, D&RGW, CB&Q,
BRC and IC for Chicago Railroad Fair

5/19/1949 Arrived at Chicago; cleaned-up by Illinois Central shops

6/25/1949 Chicago Railroad Fair second season opens with "J. W. Bowker" on static display

9/1949 In exchange for boiler work by Rock Island shops, loaned to Republic Pictures
for filming on RI Pittsburgh Branch at McAlester, Oklahoma as No. 21 for "Rock
Island Trail"; film released 5/1950

9/9/1949 Began two weeks operation without Knowles steam pump pulling two B&O coaches for
"Rock Island Trail"; parts of footage also used in Republic's "Last Stagecoach
West" released 7/1957

Returned to Chicago

10/2/1949 Chicago Railroad Fair concludes

mid 10/1949 Loaded in C&O gondola No. 218446

10/15/1949 Left Chicago at 9:45 p.m. for routing via CB&Q, D&RGW and WP with V&T "Genoa" for WP
Portola roundhouse; Delmar W. Yungmeyer onboard

10/17/1949 Left Lincoln, Nebraska at 2:00 a.m.
Arrived Denver, Colorado 6:00 p.m.; flat car held at Denver for repairs

10/18/1949 Left Denver at 11:30 p.m.

11/1949 Unloaded; stored with V&T "Genoa" at WP Portola roundhouse

6/6/1950 Annual inspection at Portola
Shipped via WP and SP to Redding

6/15-18/1950 Operated at 130 lbs. boiler pressure on 510 feet of track for California Centennials
Commission pageant at Redding with Governor Earl Warren
Shipped on SP flat car to Oakland pier

7/19/1950 Unloaded by SP; transferred to WP Oakland yards

8/1950 Space permitting, moved into WP Oakland roundhouse for storage

3/1951 Stored outside WP Oakland roundhouse

5/27/1951 Ferried by WP to San Francisco
Operated under steam on State Belt up San Francisco Embarcadero pulling WP MW gondola
and WP combine No. 402 for opening of San Francisco Maritime Museum and proposed
site of Pacific Coast Chapter Museum at Aquatic Park

5-10/1951 Engine remained on static display in front of San Francisco Maritime Museum

mid 10/1951 Returned to WP Oakland roundhouse; stored serviceable

4/1952 Repainted

8/22/1952 Operated with WP MW gondola and WP combine No. 402 for transcontinental railroad
celebration in Alameda

3/3/1953 Displayed at WP 50-year anniversary celebrations with WP combine No. 402 at WP
Sacramento depot
Stored in WP Oakland roundhouse

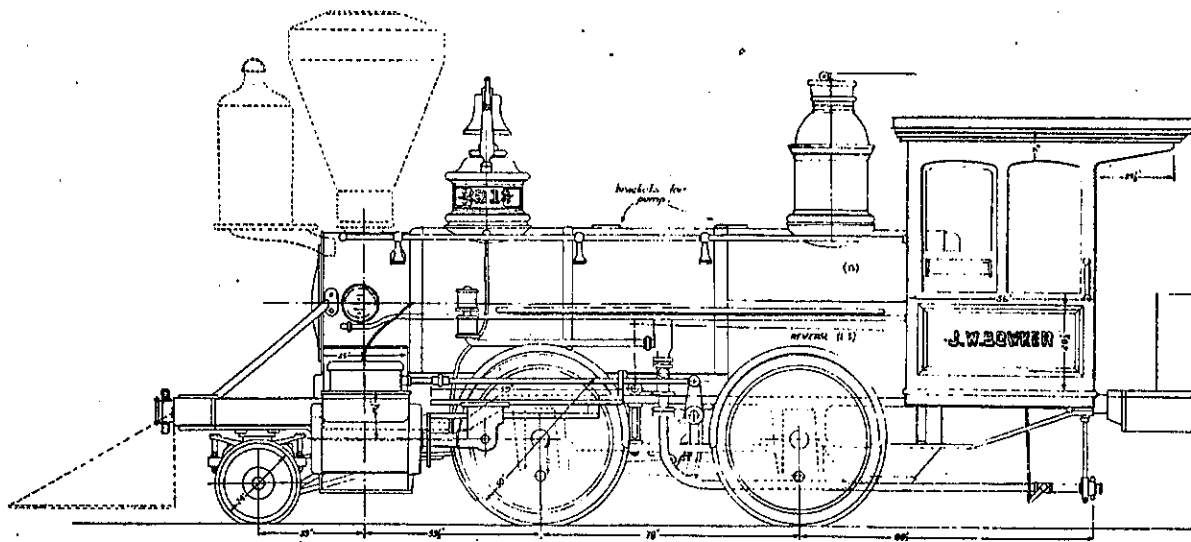
6/22/1953 Barged by WP to State Belt, San Francisco
 6/23/1953 Operated up San Francisco Market Street on street car tracks with WP combine 402 for promotion of expanded maritime and railroad museum at Aquatic Park; minor tender derailment enroute
 Last operation under steam; Adolph Williams, engineer; Manual Marshall, fireman
 6/23-25/1953 Displayed on Market Street
 Returned to WP Oakland roundhouse for storage
 7/1955 Whistle loaned for use on SP 4-6-0 No. 2248 at SP Centennial Celebration, Sacramento
 7/1958 Stored outside WP Oakland roundhouse

 5/1964 Ownership formally transferred from R&LHS, Inc. to Pacific Coast Chapter, R&LHS, Inc.
 8/11/1964 Moved by Oakland Terminal Ry. at 5:45 p.m. into track 2 of ex-Key System inspection barn in Oakland for storage
 3/5/1969 Crane loaded, trucked by Bigge to Bethlehem Steel shipyard, San Francisco
 Cosmetic renovation: new cab, completely repainted; cost \$7,892.35
 5/6/1969 Trucked free by McLaughlin Draying to SP Sacramento shops; unloaded by SP
 5/8-12/1969 Displayed at SP Sacramento depot for Golden Spike Centennial
 5/12/1969 Switched by SP and Central California Traction into Safeway Stores distribution warehouse, east Sacramento for storage
 8/10/1969 Presented to State of California Department of Parks and Recreation for the California State Railroad Museum, Old Sacramento

 6/30/1976 Moved by CCT and SP into newly reconstructed Central Pacific Railroad Passenger Station, Old Sacramento
 7/3/1976 CPRR Passenger Station opens to public with "J. W. Bowker" on static display; south end, track 2
 6/1979 Moved to north end of track 1 upon removal of V&T "Genoa"

 4/14/1987 Ramp loaded, trucked by Rushway to San Francisco
 4/15-19/1987 Displayed at The Great San Francisco Railroad Fair along San Francisco Embarcadero
 4/20/1987 Returned by Rushway to Sacramento
 On daily exhibit in CPRR Passenger Station, Old Sacramento; stored unserviceable pending full restoration and exhibit in CSRM's new Museum of Railroad Technology

- Stephen E. Drew
 October 1992 Rev.



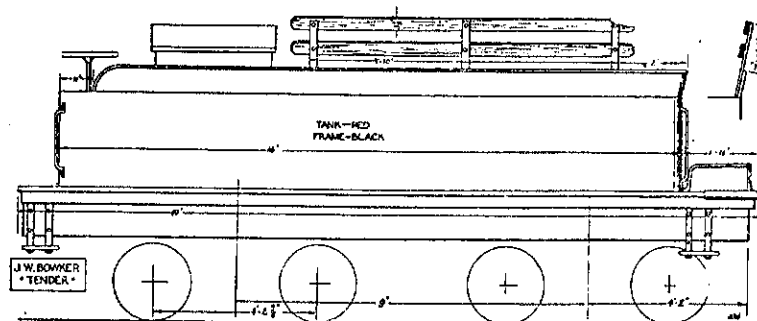
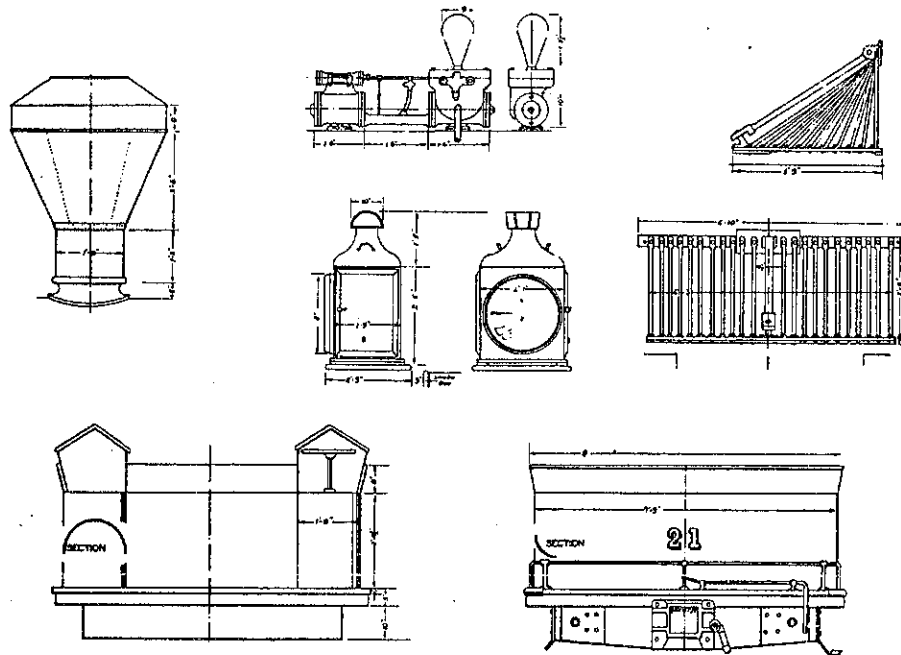
VIRGINIA AND TRUCKEE RAILROAD

Locomotive No. 21—J. W. Bowker

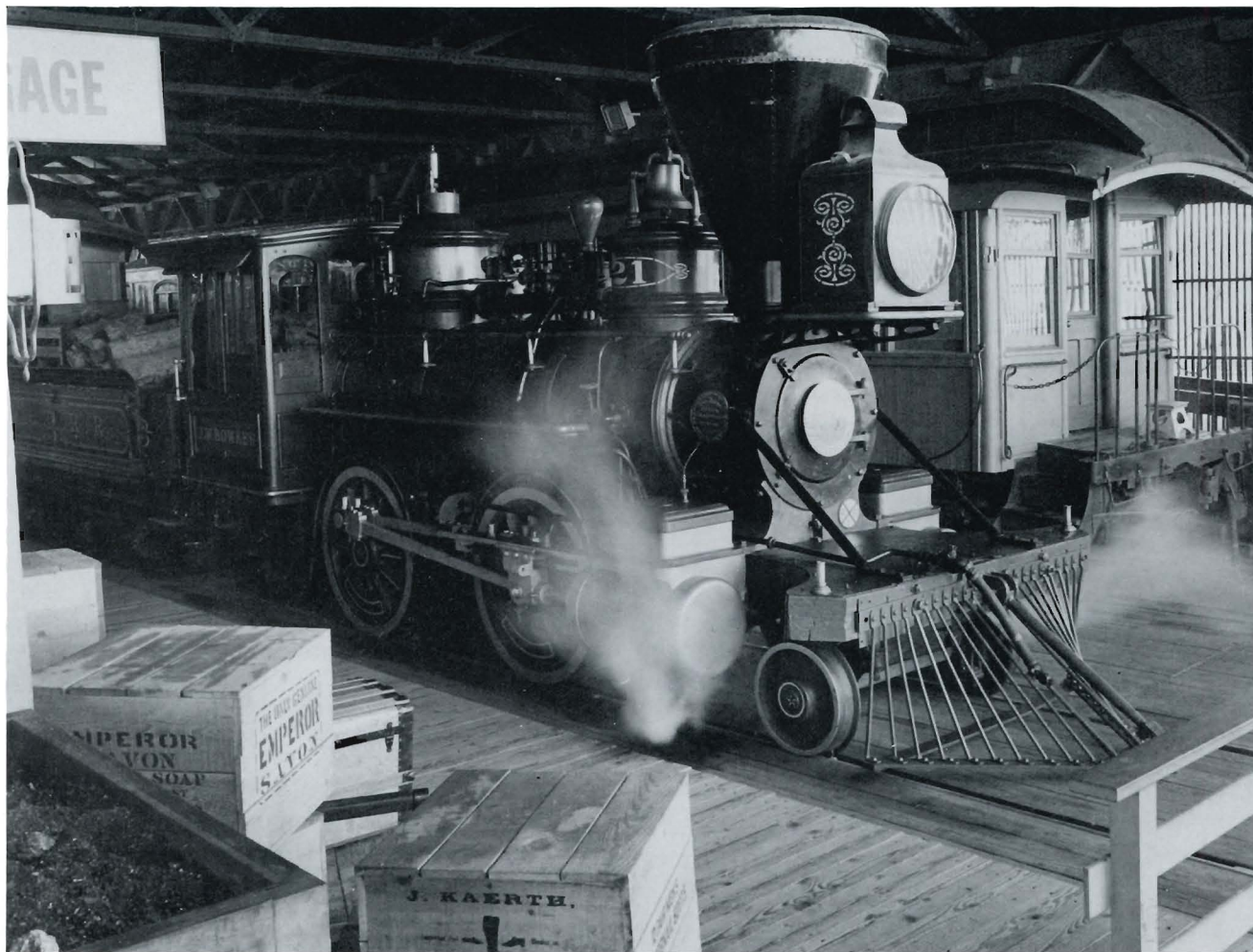
Baldwin Locomotive Works 1875

Cylinders, 14" by 23"

Weight, 24 tons

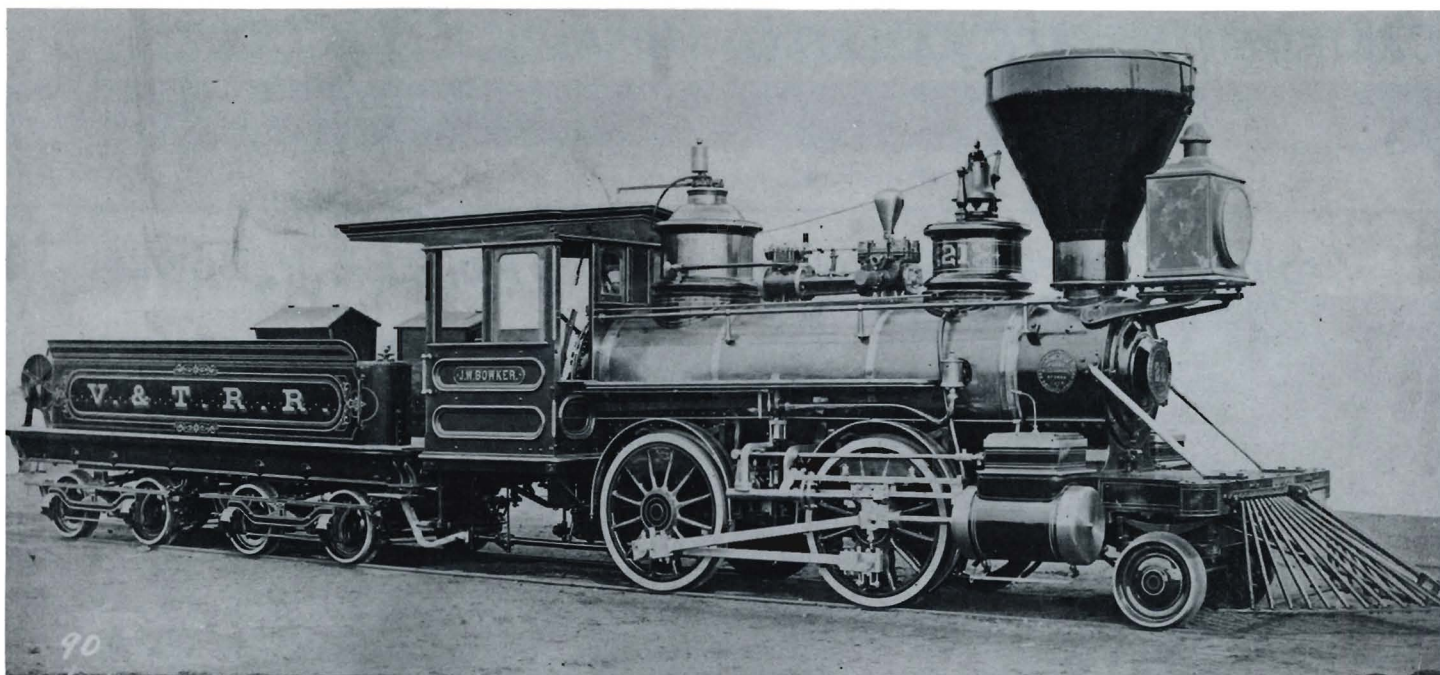


Virginia & Truckee Steam Locomotive No. 21 J. W. Bowker



The sole surviving Baldwin 2-4-0, the Virginia & Truckee J. W. Bowker has been on display in the Museum's reconstructed Central Pacific Railroad Passenger Station since the opening of the Station in 1976.

Builder:	Burnham, Parry, Williams & Company Baldwin Locomotive Works	Engine Weight:	48,000 pounds
Place:	Philadelphia, Pennsylvania	Weight Engine and Tender:	65,000 pounds
Date:	February 1875	Boiler Pressure:	130 pounds
Builder's Number:	3689	Tractive Force:	9,970 pounds
Type:	Standard Gauge 2-4-0	Length Overall:	49 feet
Driver Diameter:	48 1/4 inches	Cost New:	\$9,383.37
Cylinders:	2, 14 x 22 inches	Donated:	1969 by the Railway & Locomotive Historical Society, Pacific Coast Chapter
Weight on Drivers:	40,000 pounds		



Baldwin builder's photograph of V&T No. 21 taken in 1875 in Philadelphia.

Virginia & Truckee Steam Locomotive No. 21 "J.W. Bowker"

By Stephen E. Drew
Senior Curator

Late in 1874, the Virginia & Truckee Railroad was operating 20 locomotives over the 52 miles between Reno, Carson City and Virginia City, Nevada. But the burgeoning 5 1/2-year old railroad was still in need of additional motive power. V&T locomotive No. 21 was outshopped by Burnham, Parry, Williams & Company's Baldwin Locomotive Works in February 1875 for use as the short line's Virginia City yard engine—handling switching responsibilities around the freight and passenger depots and the numerous mines on the Comstock Lode.

Following the practice of the V&T's Carson City switch engine No. 9 named *I. E. James* after the railroad's chief engineer, No. 21 was bestowed the name *J. W. Bowker* in honor of the line's revered master mechanic John William Bowker. Bowker was an innovative master mechanic who oversaw construction of the V&T's massive Carson shops and the ordering, building or rebuilding of scores of cars and locomotives. Unfortunately, the honor of naming the locomotive after the gentleman must have gone to his head and he had to be discharged for drunken conduct on the job less than four months after the engine's arrival. The engine was briefly renamed *Mexico*, while Bowker himself entered service as chief engineer on a steamer plying between San Francisco and China.

Sparks from locomotive smokestacks were a recurring source of local fires on the V&T. Shortly after the *I. E. James* caused more than \$5,000 damage to a Carson River wood yard in 1873, the engine was retrofitted with a firefighting water pump. The *J. W. Bowker* was similarly outfitted with a powerful Knowles steam water pump atop its boiler. Suction hoses could draw

water from the tender as well as nearby lakes, ditches or streams. An iron reel mounted on the rear of the tender held 500 feet of fire hose. Fighting shanty fires adjacent to the railroad, the force of the V&T's switch engine pumps was known to entirely knock over a flaming structure. Amazingly, this 1862-patent pump is still on the locomotive today.

An engineer like H. M. Freeman working seven days a week on the *Mexico* late in 1878 earned \$4.50 per day—50 cents per day less than a V&T freight or passenger train engineer operating out on the mainline. By mid 1879, use of the name *J. W. Bowker* re-emerged in lieu of *Mexico*—the reasons for which we can only make a nostalgic guess. Occasionally the yard engine handled switching assignments between Virginia and Carson City. The early 1890s depression years were a quiet time on the railroad and No. 21 was replaced by the namesake V&T 2-6-0 No. 4 *Virginia* as the Virginia City switch engine. Out of service, the fabled V&T 2-4-0 was sold in July 1896 to the Sierra Nevada Wood & Lumber Company for \$4,000 and relettered SNW&L No. 3.

At Sierra Nevada Wood & Lumber, No. 3 began a new career switching log cars over the eight miles between Hobart Mills and Southern Pacific tracks at Truckee, California. A homemade wooden snow plow was attached to the front pilot during the winter months. Soon displaced by newer and larger locomotives, SNW&L No. 3 was retired to the Hobart Mills roundhouse where it sat, almost undisturbed, for the next 20 years. Fortunately, the Hobart family was loath to throw anything away. Prior to the formation of the Pacific Coast Chapter of the Railway & Locomotive Historical Society, its first chairman Gilbert Harold Kneiss (1899-1964) had secured the donation of the 2-4-0 from the Hobart Estate Company. Returned once again to V&T livery, the refurbished engine was briefly displayed in 1938 as the first piece of a long line of railroad equipment to be acquired and exhibited by the Pacific Coast Chapter.

At the expense of Paramount Pictures, No. 21 was returned to operating condition for a starring role in the epic 1939 Cecil Blount DeMille (1881-1959) film *Union Pacific*. Operations followed at the 1939 and 1940 summer seasons of the Edward Hungerford (1875-1948) pageant *Railroads on Parade* at the New York World's Fair. Stored on Pacific Guano Works property in Berkeley, California, during World War II, No. 21 was next displayed during the 1949 run of the Chicago Railroad Fair. Additional motion picture and pageant operations followed.

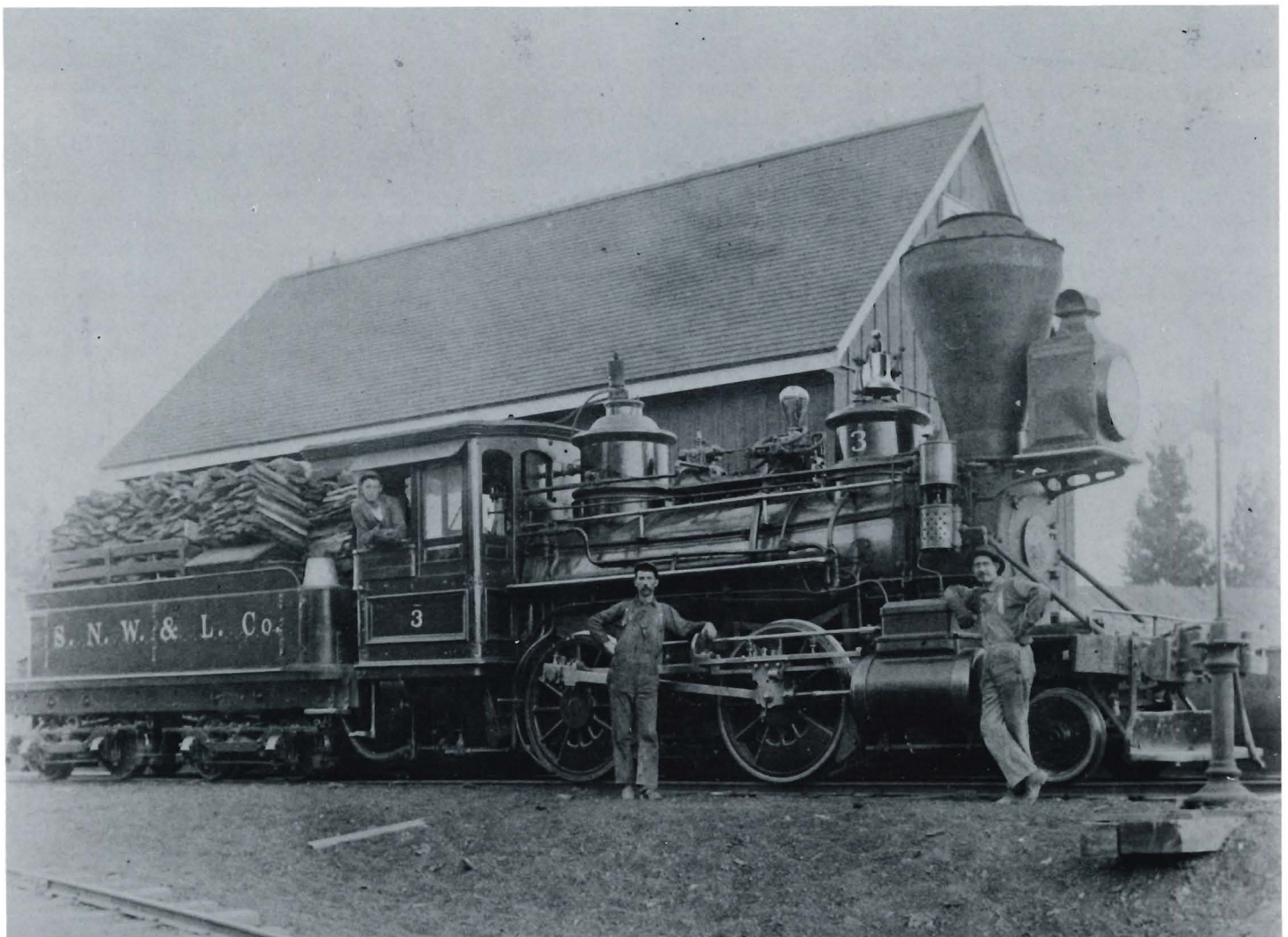
Promotional operation of the *J. W. Bowker* for the proposed Aquatic Park Railroad and Maritime Museum occurred on the San Francisco Embarcadero in May 1951 and in June 1953 when the woodburner last operated under steam. A new cab and repainting was accomplished in 1969 at the Bethlehem Steel shipyard in San Francisco under the direction of the Chapter's late chairman Frederick Arthur Stindt (1911-1992). The 32 1/2-ton engine was trucked to Sacramento in 1969 for display at local Golden Spike Centennial celebrations.

Frustrated by fruitless attempts to develop a home for its equipment collection in the Bay Area, the Pacific Coast Chapter gave V&T No. 21 to the State of California for the new Califor-

nia State Railroad Museum. Following seven years storage inside a refrigerated Safeway Stores food distribution warehouse in east Sacramento, the *J. W. Bowker* was cleaned and rolled in the CSRM's reconstructed Central Pacific Railroad Passenger Station prior to its opening on July 3, 1976 in Old Sacramento. Here the engine has remained on daily public exhibit with the exception of a week in April 1987 when it was briefly trucked back to the Bay Area for the Museum's *Great San Francisco Railroad Fair* along the Embarcadero.

The *J. W. Bowker* is the Museum's last major unrestored nineteenth-century steam locomotive. The first of an entire new class of locomotives built by the Baldwin Locomotive Works, No. 21 has been intentionally saved for prominent exhibit in the Museum of Railroad Technology which is under development with architects and interpretive designers. There are obvious restoration options for the engine—to one of several appearances while on the V&T or SNW&L. The straight style of No. 21's original iron boiler also makes the locomotive a high candidate for possible reboiling and future steam operation.

A star of the silver screen and exhibitions from coast to coast, the *J. W. Bowker* is the flagship of the Pacific Coast Chapter collection and it is one of the California State Railroad



No. 21 in service on the Sierra Nevada Wood & Lumber Company.

Museum's most popular locomotives. It is the subject of scores of live steam and scale models by railroad enthusiasts world-wide. After 118 years, who would have guessed that the once proud V&T namesake of John William Bowker exists as this country's sole surviving example of a Baldwin 2-4-0-type locomotive?

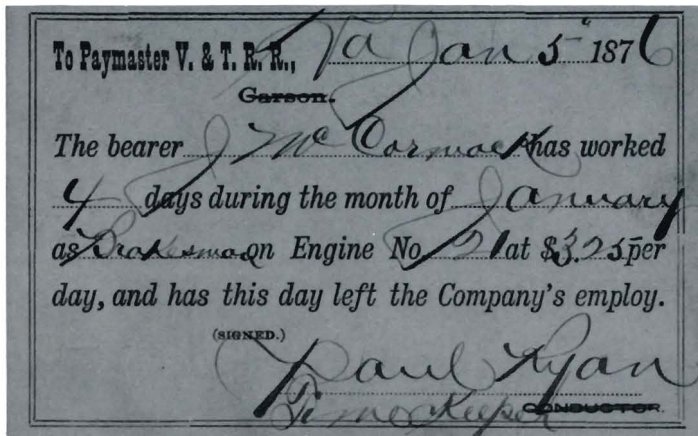
For further reading:

Available in the California State Railroad Museum Library:

Virginia & Truckee Railroad Locomotive No. 21 *J. W. Bowker*.

Equipment Restoration Feasibility Investigation, 1976.
Compiled by Stephen E. Drew and William A. Oden. 44 pp.
Typescript.

An Historical Overview, 1992. Compiled by Stephen E. Drew.
25 pp. Typescript.



An 1876 pay card for a brakeman on No. 21.



Under steam in 1938 with 125-pounds boiler pressure.



No. 21 in front of the San Francisco Ferry Building in 1951.